THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

TELEGRAPHIC ADDRESS—LANCET, LONDON TELEPHONE NUMBER—5356 GERRARD

No. IX. OF VOL. I., 1912
No. 4618. Vol. CLXXXII. LONDON, SATURDAY, MARCH 2, 1912. Pp. 176—Price 6d.

ROYAL SOCIETY OF MEDICINE.

Temporary Address, during building of new house,
15, CAVENDISH SQUARE, W.

DIARY of MEETINGS on page 626.

REMOVAL TO NEW HOUSE.—The LIBRARY of the Royal Society of Medicine will be CLOSED on and after Friday, March 1st, until further notice, for removal to the new Library at No. 1, WIMPOLE-STREET, W.

(Signed) J. Y. W. MACALISTER, Secretary.

A PRACTICAL HANDBOOK of the DISEASES OF THE EAR.
For Senior Students and Practitioners.
By WILLIAM MILLIGAN, M.D.,
Aurist and Laryngologist to the Royal Infirmary, Manchester; Surgeon to the Manchester Ear Hospital; and
WYATT WINGRAVE, M.D.,
Pathologist (lately Physician) to the Central Throat and Ear Hospital, London. With Illustrations. 8vo. 15s. net.

THE MEDICAL PRESS.—"In conclusion we may say that it is impossible in a brief review to even mention all the outstanding features of this exceptionally good book on diseases of the ear; but we strongly advise all readers, whether senior student, general practitioner, or aural surgeon, to obtain and read the outstanding feature of Otology in 1911."

SOUTH AFRICAN MEDICAL RECORD.—"It is clearly written and commendably minute in its directions as to the technique of treatment, whilst a point which we commend very heartily, aural pathology, is throughout well to the front. The illustrations are profuse and excellently executed."

Macmillan & Co., Ltd., London.

NOW READY. Demy quarto. 21s. net. Pp. 236.
With Charts and 12 Full-page Illustrations.

AUTO-INOCULATION IN PULMONARY TUBERCULOSIS.

By MARCUS PATERSON, M.B., B.S., M.R.C.S., L.R.C.P.,
Medical Superintendent at Brompton Hospital Sanatorium, Frimley.

THE LANCET says: "A thoughtful, suggestive, and original book. Dr. Paterson's suggestions and his explanations of his results are of great interest, and are worthy of careful consideration."

London: James Nisbet & Co., Ltd., 22, Berners-street, W.

MEDICAL GYMNASTICS and MASSAGE FOR THE TREATMENT OF DISEASE, DEFORMITY AND INJURY. By FREDK. F. MIDDLEWEEK, L.R.C.P., L.R.C.S. Ed. Introduction by Dr. J. ARVEDSON, Stockholm. 8vo, 2s. 6d. net.
London: John Bale, Sons & Danielsson, Ltd.

TUBERCULIN in DIAGNOSIS and TREATMENT. By Dr. BANDELIER and Dr. ROEPKE. Price 7s. 6d. net.; postage 4d.
London: John Bale, Sons & Danielsson, Ltd.

MODERN SURGICAL TECHNIQUE in ITS RELATION TO OPERATIONS AND WOUND-TREATMENT. By C. YELVERTON PEARSON, M.D., M.Ch., F.R.C.S. 2nd Ed. Price 10s. 6d. net; postage 4d.—London: John Bale, Sons & Danielsson, Ltd.

A HANDBOOK of PRACTICAL PARASITOLOGY. By Dr. MAX BRAUN and Dr. M. LUHE. Price 10s. 6d. net; postage 4d.
John Bale, Sons & Danielsson, Ltd., 83-91, Gt. Titchfield-st., London, W.

DISEASES OF THE STOMACH.
By W. SOLTAU FENWICK, M.D.
CANCER AND TUMOURS. Royal 8vo. 10s. 6d.
ULCER AND ITS CONSEQUENCES. Royal 8vo. 10s. 6d.
London: J. & A. Churchill, 7, Great Marlborough-street, W.

DISORDERS OF DIGESTION IN CHILDHOOD. Demy 8vo, 10s. 6d.
DYSPEPSIA OF PHTHISIS. Demy 8vo. 6s.
London: H. K. Lewis, 136, Gower-street, W.C.

SIGHT TESTING FOR THE GENERAL PRACTITIONER. By F. DAVIDSON. Fifth Edition. Tenth Thousand. A practical Manual on Subjective Testing and Retinoscopy. Price 2s. 6d. net; by post 2s. 8d.
Sold to medical men only, and published by
F. Davidson & Co., 29, Great Portland-street, London, W.

Just Published. Fourth Edition. Pp. xvi. + 292, with 118 Illustrations, coloured and plain. Price 7s. 6d. net.

LESSONS on MASSAGE. By MARGARET D. PALMER, late Manager of Massage Department and Instructor of Nursing Staff, London Hospital; Member of Council of Incorporated Society of Trained Masseuses.
London: Baillière, Tindall & Cox, 8, Henrietta-st., Covent Garden, W.C.

Pp. x. + 88, with 19 Figures. Price 3s. 6d. net.

THE SIGMOIDOSCOPE: a Clinical Handbook of the Examination of the Rectum and Pelvic Colon. By P. LOCKHART MUMMERY, F.R.C.S., Senior Assistant Surgeon to St. Mark's Hospital for Diseases of the Rectum.
London: Baillière, Tindall & Cox, 8, Henrietta-st., Covent Garden, W.C.

Quite New. 43 Coloured Illustrations. Price 1s. 6d. net.

ATLAS of FIRST AID TREATMENT. By BERNARD MYERS, M.D., C.M., M.R.C.S., late Lecturer and Surgeon to St. John Ambulance Association.
London: Baillière, Tindall & Cox, 8, Henrietta-st., Covent Garden, W.C.

JUST READY—THE CONCLUDING VOLUME OF

MUSSER and KELLY'S TREATMENT.

THE BOOK EVERY PRACTITIONER SHOULD POSSESS.

See Saunders' Advertisement on Page 3.

SECOND EDITION, with Illustrations, royal 8vo, 10s. 6d.

TREATMENT of LATERAL CURVATURE of the SPINE. By BERNARD ROTH, F.R.C.S.

"In speaking of the first edition we expressed the hope that this book would do something to check the unscientific and often disastrous treatment of lateral curvature of the spine by spinal supports and prolonged rest, and this new edition is even better calculated to show the good results which may be obtained in lateral curvature by posture and exercise."—THE LANCET.

"There can be no doubt that good work has been done by the author by his strong advocacy of the more rational method of treating lateral curvature of the spine by exercises."—BRITISH MEDICAL JOURNAL.
London: H. K. Lewis, 136, Gower-street, W.C.

WORKS by Dr. HARRY CAMPBELL.

HEADACHE, ETC.
FLUSHING AND MORBID BLUSHING.
(*New Edition in Preparation.*)
DIFFERENCES IN THE NERVOUS ORGANISATION OF MAN AND WOMAN.
H. K. Lewis.
ON TREATMENT. Third Impression.
Baillière, Tindall.

ON BRONCHIAL ASTHMA: Its Pathology and Treatment. By J. B. BERKART, M.D., late Physician to the City of London Hospital for Diseases of the Chest. Third Edition, Revised and Abridged. 8vo, cloth, 5s. net.
Henry Frowde, Oxford University Press, Amen Corner, E.C.

OPERATIVE TREATMENT of FRACTURES.
By W. ARBUTHNOT LANE, M.S.
In large clear type. Demy 4to. 7s. 6d.
By the same Author.
CLEFT PALATE AND HARE LIP. 5s.

"Mr. Lane makes out a clear case for early and almost immediate operation. To sum up: Mr. Lane has absolutely proved his contention, and rendered it quite clear, that early operation is the right course on every ground, developmental and otherwise; and further, that delay in performing staphylorrhaphy until the third to the sixth year is fraught with most harmful results, and should not be permitted."
—BRITISH MEDICAL JOURNAL, Jan. 27th, 1906.
The Medical Publishing Company, Ltd., 22½, Bartholomew Close, E.C.

By the same Author.
THE OPERATIVE TREATMENT OF CHRONIC CONSTIPATION.
Nisbet & Co., 22, Berners-street, W.

THE PARIS MEDICAL SCHOOL. By A. A. WARDEN, M.D., Visiting Physician to the Hertford British Hospital. 2nd Ed. With Map. Price 2s.
"Contains a host of information."—THE LANCET.
London: J. & A. Churchill.

FINAL F.R.C.S.

THE MIDDLESEX HOSPITAL SPECIAL TUTORIAL CLASSES.
See Page 78.

 THE LANCET is registered as a Newspaper. All rights reserved.

14 hours from London.
8 hours from Paris.
2 hours from Geneva.

AIX-LES-BAINS, SAVOY

On the banks of Lake Bourget in a splendid valley of the French Alps.

GRAND PRIX, FRANCO-BRITISH EXHIBITION.

WARM SULPHUR SPRINGS (115° Fahrenheit), 2 Millions of Gallons daily.

THE AIX-LES-BAINS DOUCHE MASSAGE,

Worked by 100 Masseurs and Masseuses, is the world-renowned special treatment, combined with the **Natural Vapour Bath "BERTHOLLET,"** and **"BOUILLON,"** successful in **Gout, Rheumatoid Arthritis, Chronic Rheumatism, Lumbago, Sciatica, Spondylitis, Osteo-Arthritis of the Hip-Joint, Sequelæ of Phlebitis, Neuritis, Writer's Cramp, Syphilis, Gouty Eczema and Skin Diseases,** and also **Sprains, Stiffness of Joints, Ankylosis.**

INTERNAL TREATMENT by diuretic waters: Source des **Deux Reines**—Source **St. Simon**—Source **Massonnat.**

MARLIOZ: Strong Sulphur Water, for **Throat and Bronchial Catarrh.**

PHYSIOTHERAPIC and ZANDER INSTITUTE.—Electro-therapeutics: Effervescing Baths.

AFTER-CURE MOUNTAIN STATIONS: Les Corbières, 2200 ft., and Mt. Revard, 5360 ft. above Aix (Cog-wheel Railway).

AMUSEMENTS.—Two Casinos, the finest on the Continent; Grand Cercle and Villa des Fleurs; Concerts, Theatre, Opera, Opera-Comique.

SPORTS.—Golf Links, Boating, Sailing, Fishing on the Lake Bourget, Cycling, Climbing, Winter Sports at Mt. Revard.

MOTORING.—3 hours from Chamonix; 2 hours from Geneva. Any number of beautiful drives.

English Season: April, May, September, and October.

As supplied to
H.R.H. the Princess Royal of England
for
H.R.H. the Princess Alexandra.

By Appointment to
H.M. THE KING.

As supplied to
H.R.H. the Crown Princess of Sweden
for
H.R.H. the Princess Ingrid.

HUMANIZED MILK

(originally prescribed by the late Dr. PLAYFAIR specially for the Aylesbury Dairy Company).

HUMANOID

(a concentrated Humanized Milk only requiring dilution with water).

PREPARED ONLY BY **THE AYLESBURY DAIRY COMPANY, LTD.,**

CHIEF OFFICE (open Day and Night):—

31, ST. PETERSBURCH PLACE, BAYSWATER, LONDON, W. Telephone—No. 2970 PADDINGTON.

SAMPLES FREE TO MEMBERS OF THE MEDICAL PROFESSION.

THE LANCET.

No. 4618. Vol. CLXXXII. LONDON, SATURDAY, MARCH 2, 1912. Pp. 176.

CONTENTS.

The whole of the literary matter in THE LANCET is copyright.

LETTSOMIAN LECTURES on Glycosuria. Delivered before the Medical Society of London, by ARCHIBALD E. GARROD, D.M., M.A. Oxon., F.R.C.P. Lond., F.R.S., Physician to, and Lecturer on Chemical Pathology at, St. Bartholomew's Hospital; Physician to the Hospital for Sick Children.—Lecture II... 557

ORIGINAL ARTICLES.

The Significance of the Symptoms in Cases of Duodenal Ulcer. By C. MANSELL MOULLIN, M.D. Oxon., F.R.C.S. Eng., Consulting Surgeon to the London Hospital; Vice-President, Royal College of Surgeons of England 563

The Differential Diagnosis of Certain Infectious Diseases. By FREDERIC THOMSON, M.B., C.M. Aberd., D.P.H., Medical Superintendent, North Eastern Fever Hospital 566

Cystitis: its Causes and its Treatment. By DAVID NEWMAN, M.D. Glasg., F.R.F.P.S. Glasg., Surgeon to Glasgow Royal Infirmary.—(*Concluded*)..... 570

Two Cases of Volvulus Coincident with Strangulated Hernia. By FORBES FRASER, F.R.C.S. Eng., Surgeon to the Royal United Hospital, Bath..... 573

A Vaginal Pessary Retained for Twenty-nine Years. Perforation of the Bladder and Fixation of the Instrument by a Large Phosphatic Vesical Calculus; Lithotripsy; Recovery. By A. C. BUTLER-SMYTHE, F.R.C.S. Edin., Surgeon to the Samaritan Free Hospital for Women, Marylebone-road, London, &c. 575

Two Cases of Pneumonia Treated with Pneumococcus Vaccine. By GRENVILLE P. JONES, M.R.C.S. Eng., L.R.C.P. Lond..... 575

An Examination of the Medical Provisions of the National Insurance Act. By WILLIAM A. BREND, M.A. Camb., M.B., B.Sc. Lond., of the Inner Temple, Barrister-at-Law; Lecturer on Forensic Medicine, Charing Cross Hospital.—IV..... 598

MEDICAL SOCIETIES.

ROYAL SOCIETY OF MEDICINE: MEDICAL SECTION, WITH SECTIONS OF SURGERY AND ANÆSTHETICS:—Exophthalmic Goitre 576

PATHOLOGICAL SECTION:—A New Method of Mounting Museum Specimens.—Neurofibromatosis 579

SECTION FOR THE STUDY OF DISEASE IN CHILDREN:—Exhibition of Cases..... 580

MEDICAL SOCIETY OF LONDON: Exhibition of Pathological Specimens 581

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY: Pyocolpos.—Classification in Gynæcology 581

EDINBURGH OBSTETRICAL SOCIETY: Eclampsia.—Treatment of Contraction of the Pelvic Outlet 581

ROYAL ACADEMY OF MEDICINE IN IRELAND: Exhibition of Cases and Specimens.—Insanity in Ireland 582

LIVERPOOL MEDICAL INSTITUTION: Exhibition of Specimens 584

OXFORD MEDICAL SOCIETY: Malignant Endocarditis 584

CHELSEA CLINICAL SOCIETY: Intracranial Mechanism in Health and Disease 584

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY: Some Observations on Concealed Accidental Hæmorrhage 585

REVIEWS AND NOTICES OF BOOKS.

Handbuch der Hygiene. Herausgegeben von Prof. Dr. M. Rubner, Prof. Dr. M. von Gruber, und Prof. Dr. M. Ficker 585

The Control and Eradication of Tuberculosis. A Series of International Studies by Many Authors. Edited by Halliday G. Sutherland, M.D. Edin..... 586

Handbuch der Vergleichenden Physiologie. Herausgegeben von Hans Winterstein 587

Applied Anatomy of the Lungs and Pleural Membranes, with Special Reference to the Apical Region of the Chest. By J. Stuart Dickey, M.D. Balf., B.Ch. R.U.I..... 587

Psychology of the Religious Life. By George Malcolm Stratton 588

Gewerbliche Vergiftungen; deren Vorkommen, Erscheinungen, und Verhütung. By Privat-dozent Dr. J. Rambousek 588

The House Surgeons' Vademecum. By Russell Howard, M.B., M.S. Lond., &c..... 589

Précis des Maladies des Vieillards. Par Adrien Pic, avec la collaboration de S. Bonnumour 589

Case Histories in Neurology: A Selection of Histories setting forth the Diagnosis, Treatment, and Post mortem Findings in Nervous Disease. By E. W. Taylor, A.M., M.D..... 589

Fortpflanzung, Vererbung, Rassenhygiene, Katalog der Gruppe Rassenhygiene der Internationalen Hygiene-Ausstellung 1911 in Dresden. Herausgegeben von Prof. Dr. Max von Gruber und Priv.-Doz. Dr. Ernst Rüdin..... 589

Kurzgefasste Chirurgische Operationslehre für Studierende und Aerzte. Von Dr. Ad. Oberst 590

Applied Anatomy and Oral Surgery for Dental Students. By Robert H. Ivy 590

Materia Medica Step by Step. By Arthur W. Nunn 590

A Text-book of Inorganic Chemistry. By George Senter, D.Sc. Lond., Ph.D.... 590

NEW INVENTIONS.

A New Phonophore Stethoscope.—(*Illustrated*) 590

LEADING ARTICLES.

THE NATIONAL INSURANCE ACT 591

THE PRESENT POSITION OF SALVARSAN..... 591

ANNOTATIONS.

Preservatives in Milk and Cream 592

The Story of Ancient Medicine Revealed by Greek Inscriptions 593

Rheumatic Fever in the Last Decade 594

Infant Mortality 594

The Mystery of $C_{16}H_{16}$ 595

Paroxysmal Tachycardia from a Lesion of the Auriculo-ventricular Bundle 595

Rat-bite Disease 596

Amœbic Dysentery..... 596

Curious Cases of Incompatibility..... 597

Aortic Aneurysm Mistaken for Asthma 597

The Treatment of Gonorrhœal Conjunctivitis with Steam .. 597

VITAL STATISTICS:
Health of English Towns 604
Health of Scotch Towns 604
Health of Irish Towns 604

SPECIAL ARTICLES.

Annual Report of the President of the Local Government Board 601

Seventeenth International Congress of Medicine 602

The Services 606

The Cholera Epidemic 610

Motoring Notes 611

Liverpool: Health of Liverpool.—A Wireless Telegraphy Station at the University of Liverpool..... 612

Manchester: The Sex of School Medical Inspectors.—Day Nurseries..... 613

Newcastle-on-Tyne: The College of Medicine.—Royal Victoria Infirmary..... 613

Bristol and the Western Counties: The University of Bristol and Agricultural Research 614

Wales: The Welsh National Memorial.—Aberdare Isolation Hospital 615

Scotland: The Carnegie Trust for the Universities of Scotland.—Memorial to Lord Lister 615

Ireland: The Dublin Hospitals and the Insurance Act.—The Royal Hospital for Incurables 616

Vienna: Microsporon Disease of the Scalp in School Children.—The New Deaf and Dumb Institution 616

Australia: Insanity in New South Wales.—Prevention of Venereal Disease 617

THE NATIONAL INSURANCE ACT.

British Medical Association: Representative Meeting 619

National Medical Union 619

CORRESPONDENCE.

The "Radical" Operation for Malignant Disease of the Testicle (Mr. John Bland-Sutton, Mr. H. Morriston Davies).—(*Illustrated*) 606

The Recent Outbreak of Poliomyelitis at Stoke Rivers (Mr. George Adkins) 607

The Infectivity of Cancer (Prof. D. A. Welsh) 607

The Crescendo Murmur of Mitral Stenosis (Dr. H. M. Brockbank) 608

The Pathology and Treatment of Exophthalmic Goitre (Dr. Leo. A. Rowden) 608

Weekly Payments at St. Bartholomew's Hospital: A Correction (Mr. Thomas Hayes).. 608

Unicellula Cancri (Dr. R. C. T. Evans)..... 608

Fatalities following the Intravenous Injection of Salvarsan (Dr. G. S. Stopford-Taylor and Dr. R. W. MacKenna).... 609

The Treatment of Tuberculosis and the Sanatorium Question 609

The Medical Profession and the National Insurance Act (Dr. Bernard O'Connor, Mr. Sidney Boyd and others)..... 610

A Disclaimer (Dr. Edwin Ash) 624

OBITUARY.

Alfred Harry Young, M.B., C.M. Edin., F.R.C.S. Eng., LL.D. St. And. 617

Maxwell Ogilvy-Ramsay, M.D. Edin., F.R.C.S. Edin..... 618

Deaths of Eminent Foreign Medical Men..... 618

MEDICAL NEWS.

West London Medico-Chirurgical Society 562

The Royal Sanitary Institute... 564

Literary Intelligence..... 576

British Association 590

Medical Sickness and Accident Society..... 598

Princess Alice Memorial Hospital, Eastbourne 602

Tavistock (Devon) Cottage Hospital 603

Exeter Dispensary 606

Tuberculosis and Sanatorium Treatment 615

Lord Lister and University College, London 613

Pass list of the University of Bristol 619

Foreign University Intelligence 619

British Medical Benevolent Fund 619

A Somerset Centenarian 620

Donations and Bequests 620

Middlesex Hospital 620

Devon and Exeter Hospital..... 620

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics 620

House of Commons 620

Books, &c., received..... 621

Appointments 622

Vacancies 626

Births, Marriages, and Deaths.. 625

Notes, Short Comments, and Answers to Correspondents... 624

Meteorological Readings 625

Medical Diary..... 626

Acknowledgments of Communications received 623

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX

MEDICAL AND OTHER BOOKS AND PUBLICATIONS

PAGE

BAILLIERE, TINDALL & COX:—
Bidwell .... Intestinal Surgery 10
Campbell .. Treatment ..... Cover 1
Clarke, J. J. Congenital Dislocation of the Hip 6
Cross & Cole. Modern Microscopy 5
Fourth Report of Wellcome Tropical Research Laboratories, Khartoum.. 5
French ..... Medical Laboratory Methods 5
Freyer ..... Enlargement of the Prostate 6
,, ... Urinary Organs 6
Giles ..... Abdominal Operations.. 6
,, ... Gynæcological Diagnosis 6
Gray ..... Diseases of the Ear 5
Griffiths .... Pulmonary Tuberculosis 6
Kerr ..... Operative Midwifery 5
McKisack .. Dictionary of Medical Diagnosis 5
Marshall .... Syphilology, &c. 6
Monro ..... Medicine 5
Mummery .. Sigmoidoscope .. Cover 1
Myers .... Atlas o' First Aid Treatment .... Cover 1
Palmer ..... Massage ..... Cover 1
Thorne..... Nauheim Treatment of Diseases of the Heart. 6
Turner ..... Radium 5
Wolf-Eisner Clinical Immunity and Sero-Diagnosis 5

BALE, SONS & DANIELSSON:—
Bandelier & Roepke.... Tuberculin..... Cover 1
Braun & Lube..... Handbook of Practical Parasitology .. Cover 1
Middleweek . Medical Gymnastics and Massage ..... Cover 1
Pearson .... Modern Surgical Technique ..... Cover 1

CHURCHILL, J. & A.:—
Cripps ..... Cancer of the Rectum.. 10
,, ... Diseases of the Rectum 10
Fenwick .... Cancer and Tumours of the ..... Cover 1
,, ... Ulcer and its Consequences .... Cover 1
Warden .... The Paris Medical School ..... Cover 1

FROWDE:—
Berkart .... On Bronchial Asthma, &c. ..... Cover 1

FROWDE AND HODDER & STOUGHTON:—
Bidwell .... Minor Surgery 10

GRIFFIN & CO.:—
Bacon ..... Water Analysis 10
West..... Diseases of the Organs of Respiration 6

LEWIS:—
Allen..... Vaccine Therapy, &c. ... 50
Campbell.... Headache ..... Cover 1
,, ... Flushing, &c. .... ,, 1
,, ... Differences in Nervous Organisation of Man and Woman .. Cover 1
Carter ..... Elements of Practical Medicine 50
Cooper ..... Sexual Disabilities of Man 50
Fenwick .... Disorders of Digestion in Childhood.. Cover 1
Kenwood.... Public Health Laboratory Work..... 50
Lewers..... Diseases of Women 10
,, ... Cancer of the Uterus .. 10
Martindale & Westcott.. Extra Pharmacopœia.. 6
Parkes & Kenwood.. Hygiene & Public Health 50

PAGE

LEWIS—(Continued)
Roth..... Lateral Curvature of the Spine..... Cover 1
Smith ..... Some Common Remedies 50
Stoddart .... Mind and its Disorders. 50
Swanzy & Werner.... Diseases of the Eye.... 50
Wyllie ..... Meningitis, &c. 50
,, ... Tumours of Cerebellum 50

LONGMANS, GREEN & CO.:—
Ashby ..... Notes on Physiology .. 7
Cheyne & Burghard Surgical Treatment.... 7
Coats..... Pathology 7
Colyer ..... Dental Surgery, &c. .. 7
,, ... Dental Diseases 7
Halliburton.. Chemical Physiology .. 7
Marshall .... Physiology of Reproduction 7
Quain's Dictionary of Medicine 7
Schäfer..... Essentials of Histology 7

MACLEHOSE & SONS (GLASGOW):—
Macewen, Sir W. .... Growth of Bone..... 10

MACMILLAN & CO.:—
Brunton, Sir T. L. .. Disorders of Digestion . 9
,, .. Action of Medicines.... 9
,, .. Assimilation, &c. 9
,, .. Papers on Circulation and Respiration 9
Mennell .... Treatment of Fractures 9
Mercier..... Conduct & its Disorders 9
Milligan & Wingrave.. Handbook of Diseases of the Ear .... Cover 1
New System of Medicine 9
Savage..... Milk and the Public Health 9
Shenton .... Disease in Bone..... 9

MEDICAL PUBLISHING CO.—
Lane..... Operative Treatment of Fractures .... Cover 1
,, ... Cleft Palate and Hare Lip ..... Cover 1

NISBET & CO.:—
Lane..... Treatment of Chronic Constipation . Cover 1
Paterson .... Auto-Inoculation in Pulmonary Tuberculosis ..... Cover

REBMAN:—
Archives of the Roentgen Ray 8
Barnett .... Accidental Injuries to Workmen..... 8
Moore, Sir J. Mete-ology 8

SAUNDERS COMPANY:—
Dorland's Dictionary 3
Musser & Kelly .... Treatment 3
Musser and Kelly's Treatment. Cover 1

SMITH, ELDER & CO.:—
Marshall & Hurst .... Practical Zoology..... 8
St. Bartholomew's Hospital Reports.. 8

MEDICAL LIBRARIES, &c.:—
Baker, Birmingham—
Book Bargains..... 6
Beasley & Ketley—
Stammering 10
Behnke—
Stammering 6
Davidson & Co.—
Sight Testing for the General Practitioner ..... Cover
Matthews Bros.—
Wood: Application of Trusses.... 6

OFFICIAL AND GENERAL ANNOUNCEMENTS

APPOINTMENTS VACANT:—
Beckett Hospital, Barnsley 93
Bethlem Royal Hosp., Lambeth-road . 90
Birmingham and Midland Eye Hospital 89
Birmingham and Midland Free Hosp. for Sick Children..... 92
Birmingham and Midland Hospital for Skin &c., Diseases 88
Borough of Newcastle-under-Lyme .. 90
Bradford Royal Infirmary 88
Brighton and Hove Hosp. for Women 90
Bristol Eye Hospital 89
Bristol Royal Hosp. for Sick Children 91
Burton-on-Trent Infirmary 89
Cancer Hospital, Fulham-road..... 90
Carlisle Non-Providers Dispensary .. 93
Chelsea Hospital for Women 91
Cheltenham General Hospital 91
City of Bradford Tuberculosis Dispensary 91
City of London Hospital for Diseases of the Chest 90
County Asylum, Mickleover..... 91
County of Dunbarton 90
Cumberland Infirmary, Carlisle 89
Dorset County Hospital, Dorchester.. 88
Gloucestershire Royal Infirmary, &c. 90
Kensington Dispensary, &c. 91
Kesteven County Asylum, Sleaford .. 91
King Edward Memorial Hosp., Ealing 90
Lancashire Education Committee 89
Liverpool Infirmary for Children ... 90
Loughborough and District General Hospital 88
Macclesfield General Infirmary 91
Manchester Children's Hospital 88
Manchester School for Mothers 92
Metropolitan Hospital, Kingsland-rd. 92
Prescot Union 88
Preston Royal Infirmary 89
Queen Alexandra Sanatorium, Davos 89
Queen's Hos. for Children, Hackney-road 90
Radcliffe Infirmary and County Hospital, Oxford 88
Robben Island Leper Settlement.... 88
Rochdale Union..... 91
Rotherham Hospital and Dispensary. 90
Royal Ear Hospital, Soho 90
Royal Free Hospital, Gray's Inn-road 91
Royal Naval Medical Service 88
Royal Orthopædic and Spinal Hosp., Birmingham 90
Royal Portsmouth Hospital..... 91
Royal Victoria Hospital, Dover 91
St. Bartholomew's Hospital 91
St. Thomas's Hospital..... 91
Salford Royal Hospital 91
Salop Infirmary, Shrewsbury 93
Sheffield Union Hospital..... 91
South Devon and East Cornwall Hospital, Plymouth 88
Staffordshire General Infirmary 90
Throat Hospital, Golden-square..... 89
United Districts of Banbury, Chipping Norton, &c. 90
Victoria Hospital for Children, Chelsea 92
Walsall and District Hospital 89
Warrington Infirmary and Dispensary 89

APPOINTMENTS—(Continued).
West End Hospital for Diseases of Nervous System..... 92
West Herts Hosp., Hemel Hempstead. 90
West London Hospital, Hammersmith-road 88
West Sussex Southern United (M.O.H.) Districts 89
West Sussex and Chichester Joint Education Committee 89
Wolverhampton and Staffordshire General Hospital..... 92

ASSISTANCIES, MEDICAL..... 92

ASYLUMS, HOMES, &c.:—
Arnold, Brighton 87
Ashwood House, Kingswinford 81
Association of Medical Men Receiving Resident Patients 88
Barnsley Hall, Bromsgrove 81
Barnwood House Hospital 82
Bishopstone House, Bedford..... 81
Brunton House, Lancaster..... 87
Buntingford House Retreat, Buntingford 84
Camberwell House, Peckham-road.... 81
Cheadle Royal 81
Clarence Lodge, Clapham-park 82
Colthurst House, Warford..... 87
Coppice, The, Nottingham..... 82
Crooksbury Sanatorium, Surrey 87
Croydon Mental Hospital 87
Dalrymple House, Rickmansworth .. 80
Dartmoor Sanatorium 87
David Lewis Colony, Alderley Edge .. 87
Dinsdale Park, Darlington..... 82
Dr. E. Rosenberg Sanatorium 87
Ghyllwoods 84
Grove House, Church Stretton..... 82
Grove, The, Catton, Norwich 82
Hasiemere Nursing Home..... 86
Haydock Lodge, Newton-le-Willows . 83
Heigham Hall, Norwich 81
Home for Epileptics, Maghull..... 87
Invereden Sanatorium, Cupar..... 87
Invernith Lodge Sanatorium, Colinsburgh 84
Kingsdown House, Box 81
London Fever Hospital 81
London Open-Air Sanatorium, Wokingham 85
Malling Place, Kent..... 82
Malvern Hydropathic 87
Manna Mead, Blackheath 87
Melbourne House, Leicester..... 80
Meyrick, Harrow Weald 86
Middlecroft Hall, Co. Durham 81
Moat House, Tamworth 82
Mount Pleasant, Wanstead 86
Newmains Retreat, Lanarkshire 85
Nordrach in Wales Sanatorium 85
Nordrach-on-Dee, Banchory 85
Nordrach-upon-Mendip Sanatorium .. 85
Northlands Retreat, Wandsworth 80
Northumberland House, Finsbury-park 83
Northwoods House, Winterbourne.... 85
Norwood Sanatorium, Ltd. 84
No. 610, L.O., Strand..... 86
Oxen Island, Heybridge 84
Peckham House 83
Plympton House, South Devon 82

ASYLUMS—(Continued)
Portsmouth Corporation Mental Hospital 82
Ruebury Sanatorium, Northallerton.. 87
St. Andrew's Hospital, Northampton. 82
St. George's Retreat, Burgess Hill.... 81
St. Luke's Hospital, E.C..... 81
St. Ursula, Westcliff-on-Sea 88
Sanatorium Clavadel..... 85
Shaftesbury House, Formby-by-the-Sea..... 83
Springfield House Private Asylum, Bedford 82
Stocker, Craven-street 87
Stretton House, Church Stretton..... 82
The Grange, Rotherham 81
The Pleasaunce, York 82
Vale of Clwyd Sanatorium..... 84
Warneford Asylum, Oxford 81
Wye House, Buxton 82
Yarrow Convalescent Home, Broadstairs..... 83

FINANCIAL, &c.—
Equitable Reversionary Interest Soc. 79

HEALTH RESORTS, BATHS, &c.:—
Aix-les-Bains, Savoy ..... Cover ii
Alexandra Therapeutic Institute 87
Buxton Hydro Hotel..... 86
Homburg 86
Leysin, Switzerland 86
Peebles Hotel Hydropathic 86
Smedley's, Matlock 88

HOMES WANTED:—
No. 581, L.O., Strand..... 88

HOTELS:—
Farnborough Court Hotel 80
Hotel Mosquoia, Las Palmas 80
Hotel Windsor..... 80
White Hart Hotel, Margate 80

HOUSE & ESTATE AGENTS:—
Clark & Son, New Cavendish-street.. 94
Doctor, Muswell Hill 93
Graves, Sergeant's Inn 94
Hornor & Son, Norwich..... 94
Ley Clark, Wimpole-street 94
No. 618, L.O., Strand..... 94
No. 625, L.O., Strand..... 94
Rogers, Chapman & Thomas, Belgrave-road 94
Stain s, Bishop's-rd 94
Syme, Egremont..... 94
Weatherall & Green, Chancery-lane.. 94
27, Welbeck-street 94
CONSULTING-ROOMS—
No. 620, L.O., Strand..... 94
No. 650, L.O., Strand..... 94
55, St. James's-street 94

LIFE & FIRE ASSURANCES:—
National Provident Institution 79
Prudential 79

MASSAGE:—
London School of Massage..... 80

MEDICAL ACCOUNTANTS, &c.:—
Dasie 95
Turner 95

MEDICAL AGENTS:—
Blundell & Rigby 95
Fieldhall, Limited 96
Manchester Clerical, &c., Association. 95
Manchester Medical Agency 93
Medical Agency 93
Moore & Co. 93
Needes, Herbert 96
Needes, J. C. 95
Peacock & Hadley 95
Scholastic, Clerical, &c., Assoc. 96
Turner 97

MEDICAL SCHOOLS:—
(LONDON.)
West London Post-Graduate College.. 77
(PROVINCIAL, &c.)
Edinburgh University Residential Medical College 78

NURSING INSTITUTES:—
General Nursing Association..... 79
Hospital for Sick Children, Great Ormond-street 80
Leeds Trained Nurses' Institution 79
London Nurses' Association 79
Male Nurses Temperance Co-operation 80
Mental Nurses' Co-operation..... 80
National Hospital Male Nurses' Association 80
Nurses' Co-operation, Portland-place.. 79
Registered Nurses' Society 79
St. John's House 80
St. Luke's Hospital, E.C..... 80
Temperance Male Nurses' Co-operation 79
The Retreat, York..... 79

OFFICIAL NOTICES:—
City of London Lying-in Hospital.... 77
College of Preceptors 78
London Post-Graduate Association .. 77
London School of Clinical Medicine.. 77
Medical Graduates' College and Polyclinic 77
Middlesex Hos. Medical School. Cover 1
Middlesex Hospital Medical School .. 78
North-East London Post-Graduate College 77
Oxford Eye Hospital 78
Queen Charlotte's Lying-in Hospital.. 77
Royal London Ophthalmic Hospital.. 78
Royal Society of Medicine .... Cover 1
Throat Hospital, Golden-square..... 78
West End Hospital for Diseases of Nervous System 78
York-road General Lying-in Hospital, Lambeth 77

PARTNERSHIPS & PRACTICES 95

RAILWAY & STEAMSHIP CO.'S
New Zealand Shipping Co..... 73

TUTORS & LECTURERS:—
Behnke 78
Knight 79
Med. Corres. Coll. 78
No. 443, L.O. .. 94
Schnelle 10
Weymouth 77

For Index to Trade and Miscellaneous Advertisements see page 4.

Lettsomian Lectures
ON
GLYCOSURIA.

Delivered before the Medical Society of London.

BY ARCHIBALD E. GARROD, D.M., M.A. OXON., F.R.C.P. LOND., F.R.S.,

PHYSICIAN TO, AND LECTURER ON CHEMICAL PATHOLOGY AT, ST. BARTHOLOMEW'S HOSPITAL; PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN.

LECTURE II.*

Delivered on Feb. 19th.

MR. PRESIDENT AND GENTLEMEN,—It will be remembered that the latter portion of my first lecture was devoted to a discussion of potential or alimentary glycosuria—in other words, to conditions in which tolerance of glucose is depressed below its normal limit, but not so greatly depressed as to be overtaxed by an ordinary diet. The metabolic error present in such conditions is only revealed when an excessive dose of glucose is administered as a test.

I propose to pass on this evening to the consideration of spontaneous glycosuria—that is to say, the excretion of glucose by patients whose diet contains no conspicuous excess of carbohydrate foods. Such glycosuria may occur as a transient phenomenon during a few successive hours or days; may persist for weeks or even months; or again, may be continuous throughout the remainder of the patient's lifetime, unless restrained by restriction of the carbohydrate intake.

TRANSIENT OR TEMPORARY GLYCOSURIA.

Transient glycosuria may result from widely different causes. That due to a toxic substance will cease when the administration of the substance is discontinued, whether it be due to a metabolic disturbance or to a lowering of the retentive power of the kidneys. The glycosuria which results from emptying of the glycogen reservoirs is also transient, and ceases when the reservoirs are empty; and again, glycosuria of brief duration may be due to some temporary derangement of carbohydrate metabolism, owing to causes at work within the organism.

The cases in which such temporary metabolic glycosuria occurs have to be divided into two distinct classes. In the one class may be grouped all those cases in which the tolerance of carbohydrates is continuously depressed and the patient is always on the verge of glycosuria. In such cases spontaneous excretion of glucose will occur when, during some of the fluctuations to which it is liable, the tolerance falls even below its ordinary low level, or whenever some slight excess of carbohydrate food is taken by the patient. Into this group fall the cases of alimentary glycosuria ex amylo referred to in the previous lecture, in which sugar may only be excreted a few hours after breakfast, which is the meal at which most starch and sugar are wont to be taken.

In contrast to such temporary glycosuria, which may be described as the false variety (false, that is to say, as regards its temporary character), is the truly temporary variety, which may also result from disturbance of metabolism as well as from the other causes just referred to, in which, after the urine has contained sugar during a longer or shorter period, tolerance for carbohydrates becomes completely restored. In such cases the recovery is not, as a rule, abrupt, for lowered tolerance for carbohydrates may persist for a time and gradually disappear after the spontaneous excretion of sugar has ceased. It must be pointed out that fluctuations of tolerance are sometimes very wide, and experience teaches that what appears to be a complete recovery is not always permanent.

We have, most of us, met with patients who have assured us that at some previous period of their lives they suffered from diabetes, and were more or less strictly dieted over a longer or shorter period, but who have long discarded all restrictions of carbohydrate foods, and nevertheless exhibit no symptoms of diabetes, and no longer excrete any sugar.

Such evidence, although it is far too incomplete to afford scientific proof, serves to create the impression that a few sufferers from a diabetes of some duration do actually recover completely. Many recorded instances serve to strengthen this impression, and a very small number have been studied with sufficient accuracy and completeness to carry conviction. It is astonishing how few such cases are really conclusive. As a rule, the records are deficient in evidence either that the reducing substance excreted in the urine was actually glucose, or that there was a complete recovery of carbohydrate tolerance after the glycosuria ceased; and many others have not been followed up for any considerable period after that event.

Teschemacher [1] has described the case of a man, aged 57, who was first seen by him in the summer of the year 1899. Sugar had been found in his urine six months previously, and the diagnosis of mild diabetes had been made. After a course of treatment at Neuenahr, together with appropriate restrictions of diet, he ceased to excrete sugar, and although he resumed an ordinary diet soon afterwards, there was no return of the glycosuria. His urine was examined at intervals, short at first and longer later, up to the time when, no less than ten years afterwards, he again came under Teschemacher's care with albuminuria, high pulse tension, and dilatation of his hypertrophied heart. The albumin had first been detected in his urine at one of the periodic examinations in 1906, but at no such examination had glucose been found. I know of only one instance in which the period of observation after recovery has been more prolonged.

A case recorded by Hürter [2] in 1910 is that of a girl, 10 years of age, whose parents were healthy, but some of whose kinsfolk had suffered from diabetes. In July, 1908, she had suffered from an intestinal catarrh, accompanied by urticaria, which had attacked two other members of her family at the same time. There had been several recurrences of the intestinal symptom since. Four weeks before the child came under observation she had suffered from an attack of vomiting after a slight indiscretion of diet, and from that same day had suffered from excessive hunger and thirst; the urine was often abundant, and she had lost flesh. Sugar was detected in her urine in the third week of the illness. Physical examination revealed nothing amiss in the child's abdomen, or nervous system, but the urine contained no less than 9 per cent. of glucose, and yielded a feeble ferric chloride reaction. As the sudden onset suggested an acute affection of the pancreas Schmidt's test diet was given, and his silk bag test was applied, but no evidence of pancreatic disease was thereby afforded. The patient was strictly dieted, and the output of glucose fell from 210 grammes to 5 grammes in the 24 hours, and after several days of vegetable diet the glycosuria ceased in a little more than a week after the commencement of dietetic treatment. On a single occasion, some ten days later, the reactions of sugar were again obtained. Seven months later the child had gained 6 kilogrammes in weight, all the symptoms had disappeared and there had been no recurrence of glycosuria. Moreover, the taking of 420 grammes of white bread caused no excretion of sugar, and a dose of 50 grammes of glucose was equally without effect. Since then the patient had returned to an ordinary diet, and the urine had remained sugar-free.

This case has been quoted at length because it is specially remarkable in several respects. In the first place, because the patient was a child, and it is a familiar fact that the prognosis of diabetes in children is especially sinister; secondly, because of the very large output of glucose, which was comparable to that seen in the gravest diabetic cases; and thirdly, because of the recovery of tolerance after the attack. All that is to be wished for is a longer period of after-observation, a gap in the evidence which lapse of time may supply. The case is also of special interest because of the association of the temporary diabetes with gastro-intestinal disturbance, a subject to which I shall have occasion to return later.

The necessity of caution in pronouncing that a patient has actually recovered, unless prolonged observation has followed, is well exemplified in a case described by Leo [3] of a man aged 31, who between 1901 and 1904 developed diabetes with polyuria and thirst on three separate occasions, and whose urine contained at times as much as 6 per cent. of glucose. In one of the sugar-free intervals he had so completely

* Lecture I. was published in THE LANCET of Feb. 24th, 1912, p. 483

[1] Deutsche Medizinische Wochenschrift, 1910, Band xxxvi., p. 401.
[2] Medizinische Klinik, 1910, Band vi., p. 140.
[3] Berliner Klinische Wochenschrift, 1904, Band xli., p. 1293.

recovered his carbohydrate tolerance that he was able to take a test meal of 400 grammes of bread, 500 grammes of potato, and 100 grammes of sugar without inducing glycosuria. This was in the month of July, and yet by the following October the diabetic symptoms had reappeared.

I will refrain from quoting other cases here as I shall have to refer to some such later, including one of no small interest which has been under my own observation for two years past.

Although temporary glycosuria of slight degree is not very uncommon, there can be no question that the impression that diabetes, once established, is permanent, is justified in the immense majority of instances. In some cases, at least, this malign tendency is attributable to the permanent character of the underlying disease upon which the disturbance of carbohydrate metabolism depends, as, for example, a chronic fibrosis of the pancreas. On the other hand, the conspicuous influence which dietetic treatment exerts upon the course of the malady, and the great recovery of tolerance of carbohydrates which often results from a period of strict dietary, seem to show conclusively that to work the damaged machine is to aggravate the damage, whereas if the mechanism be rested for a time it tends to recover some of its lost efficiency.

This raises a question of the greatest interest, to which no definite reply can yet be given—namely, whether or no a glycosuria, that has its origin in a lesion which is itself of a temporary character and admits of recovery, can be rendered permanent by neglect of dietary restrictions during the active period.

Undoubtedly recovery takes place in some cases of glycosuria in which no restriction of the carbohydrate intake has been imposed during the glycosuric period; but it appears to me that there are sufficient grounds for suspecting that the answer to the above question should be in the affirmative, to cause us to act upon that assumption in our capacity as practical physicians. In matters of health and sickness, of life and death, we cannot always afford to wait for scientific proof before adopting therapeutic precautions which we feel confident will do no harm.

The Diabetic Tendency.

Closely akin to this question is that of the diabetic tendency. There can be no doubt that members of certain races—for example, of the Jewish race—are more liable to diabetes than other men, and I think that certain colourings of hair and skin, which are probably racial indications, are specially common among diabetic patients. Again, in some instances, the hereditary tendency is so pronounced as to admit of no question. Are we to suppose that in some people carbohydrate metabolism is, so to speak, in a condition of unstable equilibrium, so that it is more easily upset, and when upset recovers itself less readily than in the majority of the human race?

If, as some now think, the internal secretion of the pancreas be controlled by balanced influences emanating from other glandular organs, such as the thyroid and pituitary body, the above conception is more easily entertained.

On the other hand, it must be remembered that certain organic lesions, such as granular kidney and arterio-sclerosis, are to some extent hereditary, and that the disturbance of carbohydrate metabolism which attracts our notice may be merely the result of underlying lesions, the tendency to which is transmitted in certain families and in certain races.

SHARE OF VARIOUS ORGANS IN CAUSATION.

Such considerations lead, by an easy transition, to the introduction of my main theme—namely, the share taken by various organs of the body in the causation of glycosuria.

If I may be permitted to lay before you, at the outset of this discussion, a rough sketch in outline of the conception of this subject which has been in my mind when framing these lectures, and which is doubtless largely derived from the study of the writings of Falta and his fellow workers in von Noorden's clinic, it will take some such shape as this.

We may conceive of a group of enzymes carrying on the actual work of the metabolism of carbohydrates, as of other branches of metabolism. We may picture to ourselves the glands of internal secretion as directing, controlling, and supervising the work of the enzyme labourers, now restraining their activity, and now stimulating them to increased exertions. Of the several glands concerned in this work, among which the pancreas stands pre-eminent, we may conceive of some as helping and some as hindering the actions of others, so that, if the influence of one of them be withdrawn, or be too powerfully exerted, the balance normally maintained is overthrown and disorder results. Lastly, we may picture these overseer glands as themselves controlled by a still higher authority resident in the nervous system, for the influence of the nervous system upon the glands of internal secretion hardly admits of doubt.

This is nothing more than a working hypothesis, but there is much which may be adduced in support of some of its contentions, and it is difficult to frame an alternative hypothesis which fits in so easily with many ascertained facts. If it contain any stratum of truth, it may indicate why it is that glycosuria occurs as a symptom of so many different morbid disturbances, and, to some extent, why its occurrence is apparently so capricious.

Glycosuria and the Nervous System.

The influence of the nervous system upon the metabolism of carbohydrates is manifested in various ways. We can all of us testify to its influence upon the course of diabetes, for we have seen cases in which mental worry, overwork, or shock has been responded to by an obvious aggravation of symptoms, whereas when these factors are removed the malady may resume its ordinary course. Again, there are many well-authenticated cases in which diabetes of a severe kind, persisting up to the death of the patient, has developed after a severe psychic shock or after an injury to the head. I do not propose to quote records of such cases, an admirable series of which will be found in the great works of Naunyn [4] and of Lepine [5] on diabetes mellitus.

Again, cranial injuries and also psychic disturbances may induce transient glycosuria lasting only for a day or two, or at most for a few days, and the same is observed in not a few cases of cerebral hæmorrhage and sometimes after epileptiform convulsions. Examples of both these latter varieties have come under my own observation during the past few weeks. There is much to suggest that such transient glycosurias are of the same nature as "puncture" glycosuria and result from emptying of the glycogen reservoirs under the influence of the centre in the floor of the fourth ventricle.

There is reason to believe that a similar effect may follow a variety of more or less violent "insults" to the organism, and that the transient excretion of glucose which has been observed after severe traumata which do not involve the head; after operations abdominal and other (although in this connexion the possibility of anæsthetic glycosuria has to be taken into account); after ligature of the bile-ducts in animals, and in association with attacks of gall-stone colic, belongs to this same class.

So great has been the influence of Claude Bernard's discovery on the views of the profession upon such matters that it has been assumed that in most of the cases in which cerebral lesions, such as hæmorrhages, tumours, and meningitis, have been followed or accompanied by glycosuria, this has been due to an implication of the glycosuric centre. In some instances there has been evidence of such extension, but in many cases there is none, and it is uncertain whether a persistent glycosuria is ever attributable to a lesion of the glycosuric centre.

It is probable that the excretion of sugar in cases of gross lesions of the brain and spinal cord may be induced in several different ways. Sometimes it may result from disturbances of internal secretion, and it is possible that in the same way as a violent psychic disturbance may be followed by the development of exophthalmic goitre, such a disturbance may, by way of a similar mechanism, excite glycosuria. Nor must we forget that attached to the brain is a gland of internal secretion, the pituitary, which undoubtedly takes part in controlling carbohydrate metabolism. Again, nervous lesions sometimes result from diabetes, and it is important to exclude from consideration all cases in which it is probable that the glycosuria may have been in existence before the development of symptoms referable to the nervous system.

In this connexion, let me select for special consideration a variety of glycosuria which has interested me of late—namely, that which occurs in the course of tuberculous meningitis. That sugar is occasionally present in the urine

[4] Der Diabetes Mellitus, second edition, 1906.
[5] Le Diabète Sucré, 1909.

n cases of meningococcal meningitis has long been recognised, and examples have been recorded by Mannkopf,[6] Emil Adler,[7] and others; but I have never met with it in an undoubted case of the post-basal meningitis of infants. The glycosuria of tuberculous meningitis, on the other hand, has passed almost unnoticed, although its occurrence has been mentioned by Loeb,[8] by Still,[9] and by Aldren Turner and Grainger Stewart.[10] Yet it is present in more than 30 per cent. of all cases of the disease, as some observations which I have carried out in association with Dr. R. S. Frew, at the Hospital for Sick Children, show.

As a rule, sugar appears in the urine only during the last week of life, and usually during the last two days. The urine reduces Fehling's solution readily, the reducing substance present has repeatedly been proved to be glucose by its optical properties, fermentation by yeast, and the characters and melting point of the osazone. The quantity is usually some 0·3 per cent., and seldom greater than 1 per cent.

Careful examinations which Dr. Frew has carried out of the distribution of the meningitis, in the cases with and without glycosuria respectively, lend no countenance to the idea that the glycosuria is due to the approach of the inflammatory changes to the glycosuric centre; but the influence thereupon of the internal pressure of the accumulated cerebro-spinal fluid, the internal hydrocephalus, is a factor which hardly admits of estimation. Nor do the anatomical findings lend support to the suggestion, which Loeb put forward, that the implication of the pituitary gland is concerned in the production of the glycosuria.

A third possible explanation is that the glycosuria of tuberculous meningitis is of the asphyxial variety. It is apt to appear at the period when the respirations become shallow and grouped, with periods of apnœa, conditions which may well favour imperfect ventilation and accumulation of carbon dioxide in the lungs and tissues. Thus the excretion of sugar in tuberculous meningitis offers a good example of the fact that there are various possible explanations of this symptom when it occurs in association with lesions of the nervous system, and illustrates the necessity of caution in drawing sweeping conclusions from such associations.

Glycosuria and Diseases of the Pancreas.

The connexion between diseases of the pancreas and the excretion of sugar in the urine, which has long been suspected on clinical grounds, was proven by the experimental researches of Minkowski and by his demonstration that complete removal of that gland was, in the case of dogs, followed by a grave form of diabetes. The question is no longer whether the pancreas has a share in the causation of diabetes, but how great that share may be. It is difficult to offer any other explanation of the observed facts than that the pancreas produces an internal, as well as the external secretion which plays so important a part in digestion. The available evidence points strongly to those groups of cells which are known as the islands of Langerhans as the structures which produce the internal secretion, for the view that these are not distinct structures, but rather exhausted portions of the glandular tissue, has not met with any wide acceptance.

If the accepted view be correct, we must look upon the pancreas as having, disseminated through its structure, a gland of internal secretion, and, seeing how small a portion of such a gland, so long as it remains functionally active, is able to carry on its work, it is not surprising that a removal of pancreatic tissue which falls far short of completeness fails to induce diabetes in a dog, nor that in many cases grave disease of the gland fails to cause glycosuria. Indeed, as we might expect, diseases of the pancreas which are themselves of less grave kinds, but produce widespread tissue changes, are the most apt to disturb the metabolism of carbohydrates.

The diagnosis of diseases of the pancreas presents great difficulties. The gland is so deeply seated that for the recognition of its slighter maladies we are compelled to rely almost entirely upon circumstantial evidence, and such evidence relates chiefly to the adequacy of its external secretory activity. Hence our views as to its pathology have acquired an unduly lurid aspect, and are based largely upon acute hæmorrhagic pancreatitis, necrosis, obstruction of the duct by calculi, and carcinoma which is especially apt to develop in the head of the gland.

Carcinoma of the pancreas gives rise to a group of symptoms which suffice, in most cases, for its accurate diagnosis. Pain and palpable swelling are met with in cases of acute inflammation, but the symptoms are often ambiguous, and not infrequently the correct diagnosis is only made upon the post-mortem table.

Glycosuria with hyperglycæmia is the only known symptom of failure of the internal secretion, and hence this symptom is of little value for the proof of its own origin. Only when it is attended by indications of associated failure of the external secretion can a pancreatic origin be more than suspected.

Although it is an arguable proposition that the internal secretion of the pancreas is the sole controller of carbohydrate metabolism, and that it is always concerned in the causation of what I have spoken of as metabolic glycosuria, there can hardly be any question that actual disease of the pancreas is not the primary cause of all such glycosuria, but rather that in some cases the assumed influence of the pancreas is secondary, its internal secretion being itself controlled by those of other organs.

In carcinoma of the pancreas glycosuria is an uncommon symptom, as we should expect, seeing that the growth is usually so localised, but Miraille,[11] who collected records of 50 cases, found this symptom noted in 13, as against 37 in which it was absent. In two of the 37 cases in which there was no spontaneous excretion of sugar, there was lowering of tolerance for glucose. In a case which came under Miraille's own observation glycosuria was present for a time, but ceased some two months before the patient's death, and he states that an interval as long as 11 months had been observed between the cessation of glycosuria and the death of a patient.

Glycosuria is also rare in cases of grave pancreatitis, Brentano[12] has described a case of necrosis and sloughing of the gland, in which a subdiaphragmatic abscess was opened. The patient eventually recovered and left the hospital with a pancreatic fistula and with persistent diabetes. Strube[13] also observed glycosuria, which ceased a few days before death, in a fatal case of necrosis. Marwedel has recorded[14] a case of abscess of the pancreas in which sugar was excreted during a few days only.

Benda and Stadelmann[15] found 3 to 5 per cent. of sugar in the urine of a patient who succumbed to hæmorrhagic pancreatitis with fat-necrosis, in whose previous history there had been nothing to suggest an antecedent diabetes; and in 1901 Mr. Gifford Nash[16] observed areas of fat-necrosis in a case in which he operated for gall-stones. The patient recovered, and during convalescence the sugar which had been present disappeared from the urine. However, Mr. Mayo Robson[17] supplies the further information that in 1902, 1904, and 1906 sugar was again found in small amounts, and Cammidge's reaction was on each occasion positive.

In association with pancreatic calculi, also, diabetes has repeatedly been observed.

We are justified in supposing that the pancreas, like the salivary glands, is the seat of inflammatory affections of an altogether milder kind, and which do not manifest themselves by any unequivocal localising symptoms. Naturally we know little of such forms of pancreatitis, for they are little likely to bring about the death of those who suffer from them. Such information as we possess is chiefly derived from laparotomies, during which swelling or undue hardness of the gland may be detected by the finger of the surgeon. I am now speaking of inflammatory troubles in the pancreas which admit of recovery, for fibrosis of the gland, which may be one of the sequels of such troubles, is a familiar post-mortem finding.

Some additional aid in diagnosis may be afforded by the effect of pressure exerted by the swollen head of the pancreas upon the common bile-duct, and, just as deep jaundice due to complete biliary obstruction is one of the most conspicuous symptoms of pancreatic carcinoma, so also we may well imagine that jaundice may result from inflammatory swelling of the head of the gland.

[6] See Naunyn: Die Diabetes Melitus, 1906, p. 72.
[7] Zeitschrift für Heilkunde, 1904, Band xxv., II. Innere Medizin, p. 1.
[8] Deutsches Archiv für Klinische Medizin, 1884, Band xxxiv., p. 447.
[9] Encyclopædia Medica, 1901, vol. vii., p. 481.
[10] Text-book of Nervous Diseases, 1910, p. 301.
[11] Gazette des Hôpitaux, 1893, vol. lxvi., p. 889.
[12] Archiv für klinische Chirurgie, 1900, Band lxi., p. 789.
[13] Charité Annalen, 1897, Band xxix., p. 222.
[14] Münchener Medizinische Wochenschrift, 1901, vol. xlviii., p. 11.
[15] Deutsche Medizinische Wochenschrift, 1896, Vereins-Beilage, p. 138.
[16] THE LANCET, 1902, vol. ii., p. 1192.
[17] Brit. Med. Jour., 1910, vol. i., p. 975.

Oser, writing in 1898,[18] suggested that some cases of catarrhal jaundice may be so produced by a transitory swelling of the head of the pancreas, and Mr. Mayo Robson[19] has expressed still more boldly his belief that many cases of transient jaundice admit of such an explanation. However, the pancreatic and biliary ducts are so close together that it is quite as probable that they may both be simultaneously affected by an extension of catarrh from the duodenum into which they open.

We may also well imagine that a catarrhal inflammation of the pancreas may give rise to glycosuria, although it may cause little interference with the external secretion of the gland, and that, as in other pancreatic diseases, excretion of sugar will be the exception rather than the rule.

The following case may well have had such an origin:—

A man, aged 58, came under my observation in the out-patient department of St. Bartholomew's Hospital in October, 1909. He exhibited a moderate degree of jaundice, which had been first noticed three days previously, and at the same time had begun to complain of thirst. Cutaneous itching had been noticed for seven days. He stated that his appetite had been poor for ten weeks previously, and that for four weeks he had felt weak and had been losing flesh. He had experienced no pain, and gave no history of anything resembling gall-stone colic. His motions had tended to be loose for years, and his bowels had been moved two or three times each day. His only previous illness had been an attack of bronchitis two years before. He was admitted to the hospital under my care on Oct. 29th, 1909.

On admission it was noticed that the patient's tongue was slightly furred. His liver was enlarged, and reached four fingers breadth below the costal margin. There was no tenderness in the region of the gall-bladder, which was not palpable. His skin and conjunctivæ were jaundiced, but his motions were not very pale. Nothing abnormal was found in his chest, save a slight degree of emphysema of the lungs. The patient was fairly well nourished. His urine, which was bile-stained, was found to contain a reducing substance, which was proved to be glucose, in a quantity amounting to 2·8 per cent. as estimated by the dextro-rotation. The urine contained no albumin, and did not yield the reactions of acetone nor diacetic acid. The total volume of urine passed in 24 hours varied between 570 and 1285 c.c.

It was thought probable that, in spite of the absence of pain and of tenderness or enlargement of the gall-bladder, the patient might be suffering from gall-stones, which had set up a pancreatitis. Cammidge's reaction gave a negative result, but it is much to be regretted that the various other tests of the pancreatic functions were not applied in this case. Shortly after the patient's admission it was noticed that the jaundice was passing off, and by Nov. 16th all traces of it had disappeared, as in cases of simple catarrhal jaundice. There was never any pain or vomiting, and the temperature did not rise above the normal during his stay in the hospital.

The carbohydrates of his diet were gradually reduced; protene and casoid bread were substituted for ordinary bread, and eventually he was put upon a strict diet, save that he was allowed small quantities of milk. However, sugar, although reduced in amount, continued to be present in his urine. His weight remained practically unaltered.

The sugar estimations are embodied in the following table:—

Date. 1909	Volume of urine in 24 hours. c.c.	Percentage of sugar.	Total output of sugar. Grammes.
Nov. 1st	1171	3·6	42·15
,, 2nd	1052	3·6	38·05
,, 3rd	1200	3·8	45·7
,, 4th	1143	3·8	43·43
,, 7th	571	4·9	28·3
,, 11th	714	3·6	26·0
,, 12th	1428	1·0	14·28
,, 14th	1071	1·2	12·8
,, 17th	857	1·0	8·57
,, 23rd	1142	0·67	7·7
,, 25th	1140	1·08	12·3
,, 29th	714	1·6	11·5
Dec. 1st	922	0·79	7·3
,, 9th	1000	0·48	4·8

[18] Nothnagel's Handbuch, vol. xviii., Theil 2, p. 111, 1898.
[19] Loc. cit., sub. 17.

On Dec. 7th the diet was relaxed, preparatory to his leaving the hospital, by the addition of 2 ounces of white bread, and on Dec. 10th the allowance of bread was increased to 4 ounces.

On Dec. 31st, 1909, the patient presented himself in the out-patient department. He had kept to the diet prescribed as far as he had been able, and for the first time a specimen of urine which he brought with him contained no sugar. On Jan. 14th, 1910, as there was still no sugar in the urine which he passed at his visit, nor in that collected at an earlier time in the day, the allowance of bread was increased to 6 ounces. On Jan. 28th there was still no glycosuria, and on Feb. 4th sugar was still absent, although he had taken an unrestricted diet for a week. A fortnight later, after a diet rich in carbohydrates, including sugar, several specimens were examined and were still sugar-free.

Since then repeated examinations have always failed to detect sugar in his urine, and the patient has now kept free from glycosuria for two years, although he has discarded all restriction of carbohydrates, and has taken some 14 ounces of bread in the day, in addition to other starchy foods. On Sept. 17th, 1911, he came into hospital for a night. On the morning of the 18th he took 100 grammes of glucose, fasting, but no sugar was found in the urine passed during the succeeding 12 hours.

Here we are confronted with an example of complete recovery of carbohydrate tolerance, a recovery which has been maintained for two years, by a man who, during two months at least, exhibited a glycosuria of moderate degree, which, whilst it lasted, was greatly diminished, but never removed by restriction of diet. Although there was no polyuria whilst he was in the hospital, the name diabetes can hardly be refused to the condition which was at that time present.

It must be acknowledged that the evidence of a temporary affection of the pancreas is very far from complete, although the association of the glycosuria with catarrhal jaundice is certainly suggestive. I do not attach very great weight to the negative outcome of Cammidge's test in this instance; for although I believe that this test, if performed by one thoroughly accustomed to the technique, and taken in conjunction with other tests, and especially with estimations of the total fat and unsplit fat in the stools, affords valuable aid in the diagnosis of pancreatic disease, its indications, especially when negative, are not regarded by most observers as in themselves conclusive. The case serves to illustrate the importance of trying all available tests, even in cases which do not, at first sight, promise an unusual outcome; for its value to the study of temporary diabetes would have been immensely enhanced had the tests of pancreatic efficiency been carried out in the early period.

Even as it stands it shows that the prognosis of diabetes is not necessarily hopeless, although the possibility of relapse cannot even yet be excluded.[20]

There is one variety of transitory pancreatitis known to us which is of special interest in connexion with the subject under discussion—namely, that which occasionally occurs as a complication of mumps. The clinical evidence that the affection so diagnosed is really a pancreatitis is very strong. The symptoms develop as the parotitis subsides, in the peculiar metastatic manner, which is a familiar feature in connexion with other glands, such as the testis and mamma, and is suggestive of a similar glandular inflammation. The abdominal pain, with tenderness, or even swelling in the region of the pancreas, and the subsidence of the acute symptoms in the course of a few days, recall the clinical features of the primary parotitis. With it are often associated intestinal disturbances, such as diarrhœa.

In a case which Finizio[21] has recently placed on record, the patient, a child, aged 11 months, developed, about a week after the appearance of mumps, abdominal pain, epigastric tenderness, vomiting, and diarrhœa. After a few days the pain became less severe, but vomiting continued, and the fæces, which had a very offensive odour, contained large quantities of neutral fat. A chemical analysis showed that some 60 per cent. of the fat was unsplit, as is the case

[20] Since these words were written I have again seen this patient and examined three specimens of urine, passed in the early morning, at 1.30 P.M., and at 2.30 P.M. respectively. The first and last specimens did not reduce Fehling's solution at all, but that passed at 1.30 reduced feebly, and yielded a crystalline osazone which melted at 206°. The saving clause is therefore regrettably justified.
[21] La Pediatria, 1909, vol. xvii., p. 674.

in the steatorrhœa which sometimes accompanies pancreatic diseases. In the course of a month the fæces gradually regained their normal character, and the infant made a complete and satisfactory recovery. The occurrence of such stools, when taken in conjunction with the other symptoms mentioned, afforded very strong evidence of the presence of an inflammation of the pancreas, the benign nature of which is what might be expected in a lesion associated with mumps.

Dr. P. J. Cammidge, who has examined the urine of eight patients with abdominal symptoms suggestive of this form of pancreatitis, has been kind enough to let me have the results of his examinations. In four cases the pancreatic reaction was positive, and in one of these a second examination, after an interval of a month, gave a negative result.

On the other hand, as far as I am aware, no one has ever yet seen the inflamed pancreas in such a case. We do not know what portion of the gland is chiefly affected, although the analogy of the other manifestations of the disease would lead us to expect that the entire pancreas would be involved and would be tensely swollen. The abdominal symptoms certainly indicate a far more acute pancreatitis than that which is suggested as the cause of many attacks of catarrhal jaundice.

Yet a somewhat extensive search through the literature of this subject has not brought to my notice any case in which jaundice has accompanied the pancreatitis of mumps, and in the records of many of the cases, even including Finizio's case with steatorrhœa, it is expressly stated that the urine contained no sugar. Indeed, I had almost come to think that one would be justified in asserting that this form of pancreatitis is never accompanied by glycosuria, when I lighted upon a case described by Vico Barbieri[22] in 1909 which shows clearly that no such sweeping assertion can be made.

Barbieri's patient was a boy, 6 years of age, who acquired mumps in the midst of an epidemic of that disease. Six days after the onset he complained of continuous pain above the navel, which radiated round into the right lumbar region, and he suffered from vomiting and diarrhœa. When the child was first seen the pain had persisted for four days; there was still some swelling of the right parotid gland, but it was no longer painful. There was tenderness in the epigastrium, in the middle line, two fingers breadth above the umbilicus. The temperature was slightly raised; the fæces were pale and showed many fat globules. The urine, which amounted to 2400 c.c. in 24 hours, had a specific gravity of 1034, was free from albumin, but reduced Fehling's solution and yielded Nylander's test. Unfortunately circumstances prevented estimation of the sugar. About a fortnight later all the symptoms had disappeared and the glycosuria had ceased. The daily output of urine had fallen to 600 c.c. and its specific gravity to 1015.

In one of Dr. Cammidge's cases above referred to sugar was found in the urine when the pancreatic reaction was obtained, but was absent a month later when the pancreatic reaction had also ceased.

In 1899 A. F. Harris[23] described a case of diabetes mellitus in a man, aged 42, in which sugar had been first found in the urine a month after an attack of mumps, and mentioned that he had seen in literature several references to the effect that diabetes has not infrequently followed mumps, but he does not give any references.

We must conclude that in exceptional cases the pancreatitis of mumps is attended by glycosuria, which may cease as the pancreas regains its normal condition, but that possibly lasting diabetes occasionally results. The most important point is that recovery from a pancreatic glycosuria may occur.

There is important evidence that in certain suitable cases operative interference at an early stage may avert irreparable injury to a damaged pancreas, and may arrest glycosuria. Reference has already been made to Mr. Gifford Nash's case, but in it the pancreatic lesion was of a grave kind, and the glycosuria was not permanently arrested.

In 1907 Mr. Mansell Moullin[24] recorded the case of a middle-aged woman admitted to hospital with cholecystitis and cholangitis, and who had suffered from biliary colic 11 years previously. The urine had been repeatedly examined in October, 1906, but the notes of that time made no mention of glycosuria. On her admission in 1907 it had a specific gravity of 1050, and contained glucose to the amount of 7 per cent. An operation was performed on April 16th, and gall-stones were removed; the pancreas was felt to be firm, but not sufficiently so to suggest a chronic pancreatitis. After the operation the sugar diminished progressively, and by May 4th had completely disappeared from the urine. Here the period of observation was too short to show how far recovery was permanent.

In a recent very suggestive lecture delivered by Mr. Mayo Robson[25] in 1910, he describes cases in which glycosuria ceased after operations, including examples of carcinoma of the head of the pancreas secondary to carcinoma of the bile-ducts; cases of biliary calculus in which the pancreas was found to be swollen at the time of operation; of duodenal ulcer with cholangitis and interstitial pancreatitis; and of catarrhal pancreatitis with gall-stones. In conclusion, he urges that each case of glycosuria should be considered from the point of its etiology, seeing that certain cases of glycosuria of pancreatic origin are curable, and that in others the progress of the disease may be arrested by suitable surgical measures, which can be carried out with little risk to the patient.

Of all diseases of the pancreas chronic interstitial pancreatitis is that which is most often found post mortem in cases of diabetes, and, conversely, that which most commonly gives rise to glycosuria. Opie,[26] who has made a special study of this subject, describes two varieties of interstitial pancreatitis—namely, an interacinar variety in which the newly formed fibrous tissue is distributed through the lobules of the gland and between the acini, with the result that the islands of Langerhans become early involved; and an interlobular variety in which they only suffer at a late stage. The change induced in the islands is of the nature of a hyaline degeneration. Other observers, and among them Weichselbaum,[27] have found the islands of Langerhans to be reduced in numbers, and to have undergone structural changes, in most fatal cases of diabetes mellitus.

The fibrotic changes referred to may be due to extension from the biliary ducts, as in gall-stone cases, or may apparently result from infection from the alimentary tract. Again, G. Hoppe Seyler[28] has shown that fibrosis of the pancreas may occur in association with generalised arterio-sclerosis and fibrosis of other organs, and that in this way may be explained the cases in which diabetes originates in later life in association with granular kidney and gout.

Glycosuria and Hepatic Diseases.

Seeing how important a part the liver plays in carbohydrate metabolism, we should be surprised to find how insignificant a share diseases of that great laboratory gland appear to take in the causation of glycosuria, were it not that experience teaches us that the same holds true for other metabolic processes of which it is the seat.

It is true that glycosuria often occurs in clinical association with morbid changes in the liver, and some authorities—including Naunyn and Saundby[29]—consider that cases of hepatic glycosuria form a definite group; but in some cases, and perhaps in the majority, the association is to be explained by extension of the morbid process to the pancreas. Such an explanation may well apply to the examples of glycosuria with ordinary hepatic cirrhosis, although Naunyn has met with such cases in which the pancreas showed no signs of morbid change, and it is certainly true of the rare and remarkable cases with hæmochromatosis, known by the name of "bronzed diabetes."

To the same cause may be assigned the not uncommon development of glycosuria in association with chronic cholelithiasis, whereas the transitory excretion of sugar during paroxysms of gall-stone colic, described by Gans[30] and others, has the characters of "puncture" glycosuria.

As we have already seen, even lowering of glucose tolerance is not a special feature of hepatic diseases.

[22] Gazzetta degli Ospedali, 1909, vol. xxx., p. 273.
[23] Boston Medical and Surgical Journal, 1899, vol. cxl., p. 465.
[24] THE LANCET, 1907, vol. i., p. 1645.
[25] Brit. Med. Jour., 1910, vol. i., p. 973.
[26] Diseases of the Pancreas, second edition, 1910.
[27] Wiener Klinische Wochenschrift, 1901, vol. xiv., p. 968; 1902, vol. xv., p. 969.
[28] Deutsches Archiv für Klinische Medizin, 1893, vol. lii., p. 171.
[29] Brit. Med. Jour., 1900, vol. i., p. 889.
[30] Von Noorden: Die Zuckerkrankheit, second edition, 1910, p. 29.

Glycosuria with Intestinal Disorders.

The occurrence of glycosuria in connexion with diseases of the alimentary tract has only recently attracted much attention, and we know little about it as yet. But it promises to provide fruitful lines of inquiry and holds out hope of therapeutic advances.

It is a point worth noticing that in some of the most convincing cases of recovery from diabetes there have been associated gastro-intestinal disturbances, as, for example, Hürter's case of a child of 13, already referred to, and one of the often quoted cases of Richard Schmidt.[31] A child of 4 years, whose mother and elder sister were diabetic, and whose urine had been repeatedly examined and had been found to be free from sugar only four days previously, was attacked by an acute "gastric fever," in association with which the specific gravity of the urine rose to 1042, and it was found to contain 5·8 per cent. of sugar. A rigid diet was initiated and the sugar disappeared after 17 days and never reappeared, although the patient had been under Schmidt's observation for no less than 20 years from that time and had taken an unrestricted diet.

Karl Funck,[32] who is the pioneer in the field, has recorded the case of a man, aged 33, who stated that he had lost flesh for a year, had suffered from polyuria and pruritus, and had been known to excrete sugar for six months. During his illness his stools had almost always been very loose, and the diarrhœa had increased since he had taken a diabetic diet. The loose stools were not fatty, and the fermentation test for a pancreatic lesion gave a negative result. In the mornings his urine had little reducing power, but that passed in the afternoon contained 1·8 per cent. glucose, no albumin, and no indican. His diet was readjusted with a view to his colitis. On a constant diet the sugar gradually diminished, and on the twenty-sixth day of treatment no specimen contained any. Two months later 60 grammes of glucose failed to excite glycosuria.

In a second case three successive attacks of mucous colitis were each associated with glycosuria, which ceased in the intervals. In both cases the sugar disappeared from the urine without restriction of carbohydrates, and in both Schmidt's test of pancreatic efficiency and Cammidge's test gave negative results.

Richartz[33] has recorded a somewhat similar case of a man of 60 years, whose father and brother had died of diabetes. He himself had excreted sugar in 1901, and at that time also the transient glycosuria had been associated with diarrhœa. With a fresh attack of diarrhœa, which lasted for some weeks, glycosuria recurred, and the sugar in the urine amounted to 1·4 per cent. The motions were yellow and of evil odour. Under treatment with milk diet and peptone, castor oil, and tanalbin as an astringent, the stools improved in character and became less frequent, and ultimately natural. The sugar also diminished and disappeared in about a fortnight. Soon afterwards the patient could take any desired quantity of starch with impunity, but 30 grammes of glucose still induced glycosuria.

One would naturally look for the cause of the glycosuria in such cases in the extension of an infection to the pancreas, but it must be admitted that the outcome of the pancreatic efficiency tests has hitherto lent no countenance to such a view. Reicherz connects this variety of persistent glycosuria with that observed by Pflüger after removal of the duodenum of a frog, the pancreas being carefully guarded from injury. A like result followed mere division of the nerve connexions between the duodenum and the pancreas.

Emil Zak[34] has described two cases of corrosive poisoning, one by alkali and the other by mineral acid, in which glycosuria occurred. Although the first patient survived for ten days, the glycosuria lasted only two days. In these cases the corrosion was so extensive that one fails to see why the injury to the duodenum should be held specially responsible for its causation, as Zak suggested that it was; and Eichler and Silbergleit[35] who, in consequence of Zak's observations, made experiments upon dogs, found that severe corrosion, or scorching, of the duodenum excited glycosuria in these animals, but that the same result followed when other portions of the intestine were similarly treated. They regard the glycosuria as due to emptying of the glycogen reservoirs, as after other violent insults to the organism.

Clearly it behoves us to observe carefully the condition of the intestinal functions in cases of diabetes, and to treat any intestinal disorder which may be present. It is not unlikely that evidence of enteritis will be found in more cases than might be supposed, and I may recall the fact that in the case under my own observation which ended in recovery, described earlier in this lecture, there had been looseness of the bowels for some time before the onset of the jaundice and detection of the glycosuria.

The great importance of the observations quoted lies in the fact that they afford evidence that in some cases of diabetes the metabolic disturbance depends upon primary morbid conditions which are amenable to treatment, and raise the hope that further investigation may reveal other groups of cases in which recovery is possible.

Glycosuria with Febrile Disorders.

Spontaneous excretion of sugar in association with febrile diseases by patients who are not the subjects of diabetes is certainly a rare phenomenon, but there is good reason to believe that when it occurs it is a manifestation of a lowering of tolerance for carbohydrates which is much more common. I have already referred to this subject when speaking of potential glycosuria, and to J. Strauss's observation that such lowering of tolerance is not limited to glucose, but extends to starch also. Von Noorden[36] states further that in pneumonia a noteworthy hyperglycæmia may be present, although no sugar appears in the urine. It seems probable that implication of the pancreas is responsible for the alimentary and spontaneous glycosuria in fevers.

Although I have made, and have had made, many examinations of the urine of patients with lobar and bronchopneumonia, I have not met with any example of glycosuria in those diseases, but, as an example, a case recorded by an Italian physician, Gazzetti,[37] may be referred to. The patient was a man, aged 45, who had not exhibited any symptoms of diabetes previously, who during an attack of pneumococcal pneumonia excreted traces of sugar on the second day. The day's output of glucose rose to 7 grammes on the eighth day, and to 12·4 grammes on the twelfth day, and thereafter diminished day by day, and by the sixteenth day had wholly disappeared. The temperature fell by crisis on the ninth day. Some time later tests with glucose and lævulose demonstrated a complete recovery of tolerance. It is not stated that tests of pancreatic efficiency were applied.

Similar temporary glycosuria has been observed in other specific fevers, such as scarlet fever and variola, and also in malarial diseases. Becker[38] has recently called attention to its occurrence in phlegmonous diseases. He quotes briefly 19 cases, from amongst a total of 8000 cases of abscesses, carbuncles, and the like, in which temporary glycosuria was observed, in all of which the excretion of sugar ceased on recovery. In 10 cases complete recovery of tolerance was demonstrated by the administration of 100 gramme doses of glucose after intervals which varied from 1 to 11 years after recovery. There is no obvious connexion, of course, between such occurrences and the special liability of diabetic patients to phlegmonous lesions.

In connexion with fevers will be noticed the same peculiarity which is so frequently encountered in the occurrence of glycosuria—namely, that excretion of sugar is rather the exception than the rule when one of its recognised causes is at work—a peculiarity which appears to stamp it as, in most instances, a secondary, rather than a primary symptom.

In my third, and last lecture, I propose to discuss that which is perhaps the most interesting part of my subject—namely, the association of glycosuria with disorders of the ductless glands.

[31] Prognose und Therapie der Zuckerkrankheit, Bonn, 1892, p. 6.
[32] Münchener Medizinische Wochenschrift, 1909, Band lvi., p. 2105; 1910, Band lvii., p. 1224.
[33] Zentralblatt für innere Medizin, 1910, Band xxxi., p. 321.
[34] Wiener Klinische Wochenschrift, 1908, Band xxi., p. 82.
[35] Berliner Klinische Wochenschrift, 1908, Band xlv., p. 1172.
[36] Die Zuckerkrankheit, fifth edition, 1910, p. 105.
[37] Gazzetta degli Ospedali, 1909, v., p. 176.
[38] Münchener Medizinische Wochenschrift, 1911, Band lviii., p. 2064.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—An ordinary meeting of this society will be held at the West London Hospital to-day (Friday, March 1st) at 8.30 P.M., when Mr. F. L. Provis will read a paper, Pain in Women in the Iliac Region and in its Immediate Neighbourhood. Clinical cases will be shown from 8 to 8.30 P.M.

THE SIGNIFICANCE OF THE SYMPTOMS IN CASES OF DUODENAL ULCER.[1]

BY C. MANSELL MOULLIN, M.D. OXON., F.R.C.S. ENG.,

CONSULTING SURGEON TO THE LONDON HOSPITAL; VICE-PRESIDENT, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

I DO not think the subject I have chosen needs an apology. For some years past ulceration of the stomach and duodenum has occupied the attention of surgeons more and more, and as a consequence our views with regard to it have undergone a material change. The findings of post-mortem pathology have had to be corrected in the light of what has been seen in the living, and though many of these corrections have been of a very extensive description, I believe, and I hope I shall be able to prove to you that the limits have not yet been reached.

Symptoms of Duodenal Ulcer.

Ten years ago duodenal ulcer was regarded as a pathological curiosity, very rare and hardly to be diagnosed during life. In 66 years at Guy's Hospital there were only 70 cases in which a duodenal ulcer was found post mortem. In the last ten years, since Moynihan's first paper upon the subject, chiefly owing to his work and to that of the brothers Mayo in Rochester, it has been found to be so common that there is scarcely a surgeon who has not operated upon one or more cases, and not a few who can count their operations by the score. The symptoms are too well known to make it necessary for me to enumerate them. The patient is usually of middle age. Duodenal ulcer does not appear to be a complaint of young adult life in the way that gastric ulcer is—and men seem to be more liable to it than women. For months the patient has complained of a sensation of fulness and distension after meals. At first it was only discomfort. Then it became actual pain, especially after the chief meal of the day. Soon it occurred after every meal, beginning earlier, if the food was liquid, but not for some hours in the case of a heavy meal. One peculiar feature is that it is especially severe at night, and another, perhaps even more striking, is that relief can nearly always be obtained at once by taking food, so that the patient gets into the habit of carrying biscuits about with him or taking them to bed with him at night. This pain is felt nearly always at the same spot, just to the right of the epigastrium, and is relieved by pressure. Heartburn is common, but actual vomiting is rare, unless stenosis has already set in. Hæmatemesis seldom occurs, and when it does is very grave. Melæna is quite common, but is often overlooked, as the amount in most cases is small. Locally there is nothing to be felt but a certain amount of tension of the upper segment of the right rectus. These symptoms may continue for months and then pass away completely, so that for a time the patient is perfectly well. Worry, exposure to cold, ill-health of any kind, will bring them all back again even after many years. Recurrence with intervals of complete freedom is very characteristic.

Taken together, these symptoms make up a picture with which we are all familiar. The disorder is not a functional one. I confess that I have all a surgeon's scepticism with regard to functional disorders. I do not think it right to call a disorder a functional one because we do not happen to know the organic lesion that causes it. It is not consistent with scientific work to assume that a thing does not exist because it has not yet been seen. But I do not think that anyone now would question that there is a definite organic change of some kind present in all these cases. Certainly every one will agree that the proportion of instances in which such an organic change is found is rapidly increasing, and is far higher than it was a few years ago. And the part of the digestive tract in fault is almost certainly the duodenum, though it does not follow that the mischief is confined to this. But the point about which I am in doubt, and the point which I wish to raise to-day, is, whether there is always an ulcer in these cases, or the scar left by an ulcer; and still further, whether when there is or has been a duodenal ulcer, this ulcer is really the cause of the symptoms. I admit that when there is one it makes them worse, but is it the cause? Is it not possible that it may only be a complication, aggravating everything else? I personally do not think it by any means proved that it is the cause, and for my own part I am convinced that another explanation can be found which fits the facts far better.

In many instances, of course, it is obvious at the first glance that there really is an ulcer. There can be no question about it. There is a reddened area on the peritoneal surface of the duodenum, visible as soon as the abdomen is opened, raised and thickened, a sure sign of ulceration beneath. But this is not so in all. In a good many all that is ever found is a white patch on the serous coat, which may or may not be adherent to the structures beneath, and which may or may not separate from them when pinched up between the finger and thumb. Is this a scar marking the site of an ulcer that has healed? and if it is an ulcer that has healed why should a scar—a simple scar that certainly cannot cause stenosis or obstruction—give rise to the peculiar characteristic pain and all the other symptoms that are present in these cases? In others, again, even this is wanting. In one, for example, recorded as operated upon by Moynihan, the case of a man, 26 years of age, who had been ill for nine months and who had had hunger pain practically the whole time, not even this could be found at the operation. There was nothing abnormal to be seen when the abdomen was opened. And this case does not stand alone. I could mention others.

In several of my own cases I have been so much struck by the discrepancy between the symptoms (which, be it known, were relieved by operation) and the only lesion I could find, one that I can only describe as a white patch upon the peritoneal coat, that I asked Dr. H. M. Turnbull, the director of the Pathological Institute at the London Hospital, if he could give me any information upon the subject. Dr. Turnbull's reply more than confirmed my suspicions. He told me that he had found comparatively deep ulceration upon the mucous surface of the duodenum without any evidence on the serous surface to show what was going on beneath (this, of course, was post mortem; there would have been some reddening during life); and conversely a puckered, scarred condition of the serous coat without anything in the interior to correspond. In one instance, he wrote to me "the serous coat showed a marked thickening with small nodules and adhesions, so much so that I pointed it out to the students as an indication of a malignant ulcer inside. On opening the pylorus there was no abnormality."

In short, it seems to me that it cannot be denied that there may be an ulcer in the duodenum without symptoms of any kind (in many instances in which an ulcer has been found post mortem its existence had never been suspected during life); that the characteristic symptoms may be present without even so much as a white patch on the serous coat; that fairly deep ulceration may occur in the mucous membrane without visible change on the serous surface, post mortem at any rate; that a great deal may happen upon the serous surface in the way of thickening and adhesion without anything to correspond beneath; and that the presence of a trivial scar, far too small and too superficial to cause stenosis or obstruction, is not enough to account for the symptoms assigned to duodenal ulcer; and still less for their recurrence after perhaps years of freedom.

It is much too readily taken for granted that the symptoms of which I am speaking are evidence of ulceration. Ulceration, when it is present, intensifies them and prevents their getting well, and probably is always present in cases that obstinately persist, or return again and again at short intervals; but ulceration is not an essential factor. They may occur in the most typical form without anything of the kind. It is an addition and an accident, due in general to some slight injury causing extravasation and occurring, therefore, chiefly in those parts of the bowel that are softest, thickest, and most vascular. There are, however, two symptoms which must be excluded from this—profuse hæmorrhage and perforation. When these occur ulceration is always present, but they really are complications of duodenal ulcer rather than symptoms, and fortunately only occur in a small proportion.

Pain.

As I shall only be able to deal with two or three of these symptoms, I propose to begin with pain, which from the striking features it presents, the time that elapses after a meal before it comes on, and the way in which it is relieved by food, is often spoken of as the most characteristic of all, and alone, by itself as sufficient to justify the diagnosis of

[1] A paper read before the Cardiff Medical Society on Feb. 23rd, 1912.

duodenal ulcer. This emphatically must be disallowed at once. Hunger pain, as it is called, may and does occur in its most typical form in many other disorders besides duodenal ulcer. I have known it present when the only discoverable lesion was a chronic ulcer on the lesser curvature of the stomach at the cardiac end, quite close to the œsophagus. Others have described it in connexion with gallstones, chronic inflammation of the appendix, and other abdominal troubles. And what is more significant still, in more than one instance in which an operation has been performed because of hunger pain, no lesion of any kind has been discovered, though the patient has been cured of his symptoms. The relation, therefore, of hunger pain to duodenal ulcer is clearly not so obvious and conclusive as some would have us believe.

The immediate cause of the pain is a matter of considerable interest in connexion with this. The usual explanation for it is that it is due to the acid gastric juice coming into contact with the raw surface of the ulcer; and the lateness of its occurrence in duodenal as compared with gastric ulcer is explained on the supposition that the acid contents of the stomach do not pass through the pylorus until some hours after the food has entered the stomach. Some authors indeed have been so ingenious as to be able to diagnose the position of an ulcer in the stomach by the time at which the pain began. I do not know if they do so still, but I expect they do, for if a positive statement, right or wrong, once gets printed in a book it apparently becomes immortal. As an effort of the imagination these suggestions are decidedly not without merit, but that is the best that can be said of them. There is not the slightest foundation for them. They are pure assumption. In the quietest possible way they presuppose the existence of an ulcer. They do not prove it, or attempt to prove it. And then, not satisfied with this, they presuppose that if there is an ulcer the effect of acid upon it would be the same as the effect of acid upon a sore place on the hand. As a matter of fact, ulcers of the stomach or duodenum may exist for months exposed to acid all the time without the patient suffering any inconvenience; and patients with proved (not supposed) gastric ulcer may swallow acid of far greater strength than is ever secreted in the stomach without experiencing so much as an unpleasant sensation. Lennander, too, has shown, and it has been confirmed by surgeons times without number, that the walls of the stomach and intestine, whether there is an ulcer or not, are entirely devoid of sensibility to stimuli of this kind. They may be cut with scissors or cauterised, or burnt with strong acids without the patient being so much as aware that anything is being done. All this, therefore, about the effect of acid causing pain in this way is manifestly pure imagination.

It is often said in opposition to this that all the same there must be something in it because alkalies relieve pain, and alkalies neutralise acids. I have no quarrel with the facts. Alkalies neutralise acids. They also relieve pain. So do food, and carminatives, and even alcohol, when judiciously taken, but none of these neutralise acids. And there is another difficulty—in the rapidity with which relief follows. It is impossible to think that in the case of a duodenal ulcer the dose of soda has had time to pass through a stomach half-filled with semi-digested food and neutralise the contents of the duodenum beyond. No; there is no help to be got from alkalies—no help for the theory, at any rate, however useful they may be in practice; and the idea that pain is due to the direct action of the acid gastric juice upon an ulcerated surface, and that there must be an ulcer because there is pain, must be altogether given up.

As a matter of fact, the real explanation for this pain is quite different. The immediate cause, until, that is to say, the stage is reached when the peritoneum becomes involved and another factor is introduced, is nothing more nor less than muscular cramp, violent spasmodic contraction of the unstriped muscular fibre at and near the pylorus. If the contraction is comparatively moderate, so as merely to cause a certain degree of tension, there is only the sensation of fulness. When it is more severe the sensation becomes pain, which is described as bursting—a phrase, it may be noted, patients are very fond of using. It describes literally what they feel. In the worst cases this pain becomes almost unbearable, and leaves behind it when it subsides a feeling of soreness and tenderness that may last for days. If there is any mechanical obstruction the contraction comes on in waves, one succeeding another in regular sequence; but if the passage is free, except for spasm, and the stimulus is continuous, the contraction is maintained without intermission, until at last it gives way either because the muscular fibres are tired out or the nerve centre is exhausted.

The immediate stimulus that starts this contraction is probably always the food as it leaves the stomach. At the beginning of digestion, as is well known, muscular action is comparatively slight. Later it increases in vigour as the stomach becomes empty, perhaps caused in some measure by the increased acidity of the contents. So long as the mucous membrane is normal and healthy, and there is no obstruction, spasmodic or mechanical, the contraction is not felt. It is absolutely imperceptible. But if from any cause the responsiveness of the mucous membrane to stimuli becomes abnormally raised, at once irregular spasmodic contraction sets in, in place of muscular action in orderly sequence, and with it, as its inevitable attendant, pain. There may be an ulcer or there may not. The presence of an ulcer is certainly not necessary. Muscular spasm may occur in its worst and most painful form without anything of the kind. All that the pain really indicates is that there is an irritable, hyper-responsive condition of the mucous membrane, so that a stimulus which in ordinary circumstances would produce only a normal result calls into play a reaction which is not only excessive in amount, but which persists and continues so long as this condition is present. If this goes on, if the spasm and contraction are kept up, it ends in the establishment of a typical vicious circle, the increased responsiveness of the mucous membrane intensifying the muscular spasm and the increased muscular spasm irritating the mucous membrane still more by crushing the tender surfaces together. It is the formation of this vicious circle that holds the secret not only of the symptoms that are present in what is commonly known as duodenal ulcer, but of the reason why they are relieved with such certainty and success by the operation of gastro-enterostomy when all else has failed.

Nor does this rest upon mere conjecture. The occurrence of this muscular spasm has been actually seen and watched, not only in cases in which there is pyloric stenosis, in which, of course, it is well known, but also in those in which there is no obstruction nor ever has been. There are many cases recorded now in which the abdomen has been opened under local anæsthesia and the contraction of the muscle about the pylorus has been watched from start to finish, the muscle slowly swelling up and becoming hard under the influence of some distant stimulus, and the patient simultaneously complaining of the characteristic pain. That this is the true cause of the pain, and not the irritation of the surface of an ulcer by the acid gastric juice, may be regarded as certain, and it is no less certain that the pain may occur, and occur with the greatest severity, in cases in which there is no ulcer, and in which there never has been one.

The late onset of the pain when the duodenum is involved, as compared with its early beginning in the case of the stomach, presents no difficulty. It is simply due to the fact that the vicious circle is not started so soon. A certain vigour of contraction is required for it, and it is well known that the movements of the stomach increase in intensity as it becomes empty. It is not due, as is so often stated, to the lateness with which food enters the duodenum. This is simply another product of the imagination. Barclay and Hertz[2] have both of them shown as a result of X ray work that bismuth, at any rate, and therefore presumably the food that is mixed with it, begins to pass through the pylorus almost at once, long before the pain commences. And the relief experienced when food is taken, which has gained for this pain the name of hunger pain, is simply due to the fact that food entering the stomach engages for the moment the whole attention of the local nerve centres, and so cuts the vicious circle across for the time being. Unfortunately, the effect does not last long. Something more is required if the circle is to be permanently broken.

Hæmorrhage.

The second symptom, or supposed symptom, of duodenal ulcer to which I wish to call your attention is hæmorrhage. It is of very frequent occurrence, much more frequent than is usually believed, but unless it is profuse it is no proof of the presence of an ulcer and cannot be accepted as evidence that there is one. Profuse hæmorrhage coming from the

[2] THE LANCET, May 6th, 1911, p. 1189.

duodenum, which fortunately is of rare occurrence, is another matter. This is probably always due to an ulcer that has eaten its way into the wall of an artery, and demands immediate operation. But what are commonly called occult hæmorrhages, small quantities of blood occurring in the fæces, so small that they can only be detected by chemical analysis, the hæmorrhages that are usually met with in cases of this kind, do not mean anything of the sort. All that they mean is that there is great congestion of the mucous membrane, so that the blood pours out from the capillaries that have given way and escapes between the epithelial cells. They do not mean that there is any such thing as an ulcer, or even a breach of the surface visible to the naked eye. I admit this is difficult to prove of the duodenum, for the duodenum is seldom opened and inspected during life; but it is so certain in the case of the stomach that it can hardly be doubted as equally true of that portion of the duodenum which, genetically and anatomically, is so much more closely related to the stomach than it is to the rest of the intestine. This is the condition which Hale White described in connexion with the stomach as gastrostaxis.[3] There is no ulcer. The surface of the mucous membrane is unbroken, but the blood pours from it. I have on three occasions opened the stomach for hæmatemesis expecting to find a gastric ulcer, as all the classic signs of gastric ulcer were present, without being able to find one. I admit that in such circumstances an ulcer may easily be overlooked. During life such an ulcer often appears as a fine linear fissure, out of which the blood trickles slowly in a continuous stream, and I have myself pointed out how easy it is to overlook a minute opening in the wall of an arteriole; but the blood in these cases did not come from any single spot but from a surface which was to all appearance unbroken, and there are at least four cases on record in which an operation of this kind having terminated fatally, the most minute and searching examination post mortem failed to reveal the presence of any ulcer.

Moreover, it is well known that severe and even fatal hæmorrhage may take place from the stomach and intestine after abdominal operations, without any evidence of ulceration being found post mortem. I have known this occur after such a simple operation as ligature and removal of a small portion of omentum. There can, therefore, be no doubt that hæmorrhage may, and often does, take place from the stomach without any such thing as ulceration, and if this is true of the stomach it is almost certainly equally true of the duodenum. Melæna, in short, where all the other symptoms point to the presence of an ulcer in the duodenum, may be regarded as confirmatory evidence; if it is in large amount, as strong confirmary evidence; but there can be no question that ulceration of the duodenum may and does occur without melæna, and that conversely small hæmorrhages from the duodenum are equally common without ulcer.

Hyperchlorhydria.

The third symptom which I should like to discuss because of the frequency of its presence in cases of supposed ulcer of the duodenum is what is known as hyperchlorhydria. I am not quite sure that I understand all that is implied by this word, or that physicians who make use of the word are agreed among themselves as to its exact significance. Etymologically I have no doubt, from the high authorities that use it, it is quite correct, and there is no doubt that any layman who is told that he is suffering from a complaint with such a name must be duly impressed thereby. But I cannot free myself from the uneasy suspicion that this is one of those long and impressive words that are coined from time to time, if not for the actual purpose of concealing what we do not know, at any rate possessing that effect. It does not matter so very much, perhaps, if it only hides our ignorance from our patients. The days of the early Victorian physician have not gone by yet, and faith, or what we term suggestion, still plays a great part in treatment. But it does matter a very great deal if it conceals our ignorance from ourselves, and of that I am afraid there is some danger.

The general view appears to be that hyperchlorhydria implies nothing more than a morbid excess of free hydrochloric acid in the contents of the stomach. Employed in this sense the word is harmless, but inasmuch as an excess of this kind may be produced in more ways than one, and may mean many different things, it must be clearly understood that the word merely connotes the symptom and not the cause, whatever it may be, that underlies that symptom. In one respect I admit hyperchlorhydria is more closely associated with duodenal ulcer than either hunger-pain or hæmorrhage, for an excess of hydrochloric acid undoubtedly assists the process of ulceration. Ulcers occur chiefly—in fact, almost entirely—in those portions of the stomach and duodenum that come most closely into contact with acid, and when the acid is in excess the digestion and disappearance of any portion of mucous membrane the vitality of which has been already lowered by thrombosis or bruising naturally take place more easily. But though hyperchlorhydria is present in about 60 per cent. of cases diagnosed as duodenal ulcer, and though when present it may help in the actual production of the ulcer, its presence even in an exaggerated form is not evidence of the existence of an ulcer.

The simplest explanation for the presence of an excess of free hydrochloric acid in the stomach is that there is an excessive amount secreted. For some reason or other that portion of the mucous membrane which is concerned with the secretion of acid has been rendered unduly responsive to the stimuli it receives. Just as the increased responsiveness of the mucous membrane of the duodenum leads to pyloric spasm and hunger-pain, so that of the mucous membrane of the acid-secreting portion of the stomach leads to hyperchlorhydria. It is not surprising, therefore, that these two should occur together with such frequency, but neither the one nor the other is proof of the presence of an ulcer. There may be an ulcer or there may not. If there is one it usually makes all the symptoms worse; but when it does occur it is an addition and more or less an accident.

Causation.

But what, then, is the real significance of these symptoms? What is the condition of the stomach and duodenum that underlies them all? And why do hunger-pain, pyloric spasm, occult hæmorrhages, gastrostaxis, and hyperchlorhydria occur in this association? For myself, I am convinced that the solution is to be found in the intensely hyperæmic and hyperæsthetic state of the mucous membrane present in these cases. This, to my mind, is quite sufficient to account for the whole. The mucous and submucous layers of the bowel are swollen and thickened. All the interstices in the adenoid tissue that is so abundant are choked with lymph. The lymphatic follicles themselves are so much enlarged that they project above the surface, where they are in constant danger of breaking down. The blood-vessels are distended to such a degree that the slightest pressure is sufficient to make them give way, and if the extravasation is near the surface and there is an excess of free hydrochloric acid ulceration is almost certain to follow. Of all this there can be no doubt, and it is enough, and more than enough, to account for the symptoms; but because almost the whole of this disappears with the life of the patient, little or no attention has hitherto been paid to it. After death, when the blood pressure has fallen to zero, there is little or nothing to be seen but the staining of old and recent extravasations and a few enlarged follicles. This is enough if the signs are read aright—they tell the tale quite clearly of what has been going on; but if an ulcer happens to have formed, though it may be quite late in the day and though it may have healed already, it stands out as such a prominent feature that it gets the blame for the whole. The primary cause is overlooked.

This rests mainly upon clinical evidence it is true. In operating in cases of duodenal ulcer the duodenum is seldom opened sufficiently for the interior to be inspected. But it is thoroughly borne out by what has been seen times without number in the case of the stomach. It is curious how the old observations made of the interior of the stomach of Alexis St. Martin appear to have become forgotten, obliterated, I suppose, by more complicated methods of inquiry. Very few, I imagine, except operating surgeons, ever have the chance nowadays of seeing the mucous membrane of the stomach during life and noting the extraordinary difference in its appearance from that which it presents after death. On the post-mortem table the mucous membrane of the stomach is a thin, pale grey structure that falls into irregular folds and wrinkles according to the way in which it is handled. During life, when it is full of circulating blood and lymph, it is soft and thick. It keeps its own shape and its colour is a brilliant red. During active digestion, when the amount of blood circulating through it is very much larger, the difference is greater still. And when, from some pathological

[3] THE LANCET, Nov. 3rd, 1906, p. 1189.

cause, the hyperæmia is so intense that the surface actually weeps blood, all resemblance disappears. It is difficult to realise that the two structures are the same. This is the condition that precedes ulceration and gives rise to the symptoms for which the ulcer, when there is one, always gets the blame, and which apparently are so inexplicable when no ulcer, or only a trivial scar, can be found.

Hyperæmia such as this may be caused in many different ways. Exposure to cold is one of the most common. It is notorious how prone this is to bring back all the symptoms of duodenal ulcer, even after many years of absolute freedom, not, as is usually stated, because the ulcer has been lying latent all that time and suddenly springs into life again, but because exposure to cold is one of the most frequent causes of internal congestion, and in any given individual nearly always affects the same part of the body time after time, so that if the duodenum was involved once it will become involved again. Jaundice, it is well known, may be caused in this way if the congestion involves that part of the duodenum into which the bile-duct opens. If the congestion is only slight the symptoms soon disappear, and it is said to have been an attack of acid dyspepsia, which has been cured by alkalies or by starvation. If it is more severe and the mucous membrane becomes over-responsive and irritable, so that the passage of food excites an attack of muscular spasm, a vicious circle is set up; the symptoms persist and grow more and more severe, and the patient is said to be suffering from duodenal ulcer.

Septic poisoning, such, for example, as that which occurs in so many cases of chronic appendicitis and gall-stones leading to persistent ill-health without anything definitely wrong, is, I believe, still more common as a cause. The influence that septic poisons exert upon the mucous membrane of the stomach and first part of the duodenum seems to me to be scarcely sufficiently appreciated. The gastric ulcer of young women, in whom there is often no ulcer at all, but merely hyperchlorhydria and gastrostaxis, is notoriously due in a very large proportion of cases to the persistent swallowing of septic poisons from the mouth. I have cured many such by sending them to the dentist. In these the septic poison exerts its action directly on the mucous membrane of the stomach. It does not pass the pylorus. But it is no less efficacious when it is brought through the blood stream, and then it affects stomach and duodenum indiscriminately. Hæmorrhage into the stomach, the result of intense congestion leading to coffee-ground vomiting, is among the commonest incidents of the later stages of all forms of acute septic poisoning. Real duodenal ulcers, it is well known, are not infrequent complications of septic burns, and there can be very little doubt that for every case in which an ulcer occurs there are many more in which the congestion and swelling of the mucous membrane of the duodenum go no farther. And now that attention has been called to it there are many cases on record in which violent hæmatemesis has occurred after operations in septic cases of appendicitis and other similar troubles. Septic poison, in short, either brought into contact with the mucous membrane of the stomach, or carried by the circulation into its vessels, will cause intense congestion, hypersecretion, hæmorrhages, and even ulceration. When the poison is generated in the mouth and is swallowed, the stomach chiefly is involved, and gastrostaxis, hyperchlorhydria, and ulceration follow. Possibly the excess of acid may neutralise the poison more or less and prevent its extending farther, and this may even be protective on the part of the stomach. When it is brought by the blood stream the duodenum is often affected as much as the stomach, sometimes a great deal more, and hyperæmia with intense irritability, pyloric spasm, and hunger-pain result. In the worst cases, those especially in which the stomach is affected as well, so that there is a great excess of free acid, ulceration is very likely to occur too, but the ulcer is the consequence, not the cause. It is an addition, which aggravates all the symptoms and makes them more persistent, but it is not the primary agent.

Exposure to cold and septic poisoning, however, by no means exhaust the list of possible causes. In some people this part of the digestive tract is so sensitive that even trivial injuries lead to a serious degree of congestion with its consequences. Not so long since I was consulted by a young man for a trivial attack of traumatic synovitis of the knee. He seemed to me to attach an undue amount of importance to a simple sprain; but when I asked him about it, he said at once: "You do not know why; I shall get jaundice; I always do if I hurt myself like this." And it was quite true; he did.

As a matter of fact, we know as yet very little of the mechanism that controls the vascular and nervous supply of the pyloric region of the stomach and duodenum. It is evidently extraordinarily complex and delicate, and liable to be upset in many different ways. And we know still less of the extent of the powers which these parts of the body possess of excreting poisons from the blood though they must be very considerable. But that the symptoms which are usually grouped together as indicative of duodenal ulcer do not prove in any way the presence of an ulcer, but are accounted for equally well by attacks of congestion and hyperæmia, and the establishment of a vicious circle, started by something that irritates the exceedingly sensitive surface of the mucous membrane, seems to me not to admit of doubt. If the symptoms are recent and slight, drugs and diet effect a cure, and the case is said to have been one of acid dyspepsia or hyperchlorhydria, because after some kind of test meal an excess of free hydrochloric acid is sometimes, but by no means always, found. In cases that have lasted longer, in which a vicious circle, such as I have described, has already been established, the same good result may follow; but as a rule much longer treatment, combined with rest in bed, is required, and after all the symptoms have disappeared recurrence is very likely to take place on the most trivial provocation, such as exposure to cold. In the worst the only means of breaking the circle is an operation—gastro-enterostomy—and that fortunately is safe, effectual, and final. There is no recurrence after gastro-enterostomy. Whether there really is ulceration or not in such a case is perfectly immaterial. So far as treatment is concerned it does not enter into the question. Operation, of course, is compulsory if there is serious hæmorrhage, for this in the case of a duodenal ulcer rarely occurs unless an artery has been eroded, or if the severity of the local symptoms causes even a suspicion that perforation may possibly occur. But it is no less necessary in cases in which, from the persistence or obstinate recurrence of the symptoms in spite of medical treatment, it is evident that something more thorough is required. In many of these cases there may be one or more ulcers, and in many more there are white patches on the serous coat of the duodenum which possibly may be the scars of old ulcers; but the symptoms are not due to the ulcers, though they may be made worse by them, and they are certainly not caused by the white patches, whether they are scars or whether they are not.

Wimpole-street, W.

THE DIFFERENTIAL DIAGNOSIS OF CERTAIN INFECTIOUS DISEASES.[1]

BY FREDERIC THOMSON, M.B., C.M. ABERD., D.P.H.,
MEDICAL SUPERINTENDENT, NORTH EASTERN FEVER HOSPITAL.

I FELT much honoured when I was asked to open a discussion at the Æsculapian Society, and as your President suggested to me that some remarks on the differential diagnosis of infectious diseases might be acceptable I decided to take his kindly advice. In the time at my disposal I can only do this in a limited way, and, accordingly, I will only attempt to discuss the diagnosis between a few of them.

Without doubt, it will interest you to know what certain of the error rates approximately are. For the purpose of showing this in scarlet fever and diphtheria I have taken the admissions to my hospital for the years 1906 to 1910 inclusive. In rough figures during these five years 13,000 patients were admitted certified to be suffering from scarlet fever, and of these, in my opinion, 8 per cent. were not so suffering. During the same period about 3000 cases certified to be suffering from diphtheria were admitted, and of these 22 per cent. were suffering, not from diphtheria, but from other diseases. I must, of course, admit that these percentages cannot be accurate because I myself make wrong diagnoses, and the frequency with which I do so I cannot estimate in the least.

In the year 1902, when small-pox was epidemic in London, some 8000 patients were admitted into the institutions of the Metropolitan Asylums Board so certified, and of

[1] A paper read before the Æsculapian Society on Feb. 2nd, 1912.

these 7·7 per cent. were mis-diagnoses. In the year 1903, when the epidemic was over, roughly 400 cases were admitted certified to be suffering from small-pox, and of these 18·2 per cent. were not so suffering. Of the 7·7 per cent. error-rate of 1902, 2·5 was due to mistaking chicken-pox for small-pox, while of the 18·2 error-rate of 1903 8·7 was due to the same cause.

When one considers the difficulties with which the practitioner is beset, such as indifferent light, uncleanly skin, the anxiety for several reasons to come to a definite diagnosis, and so on, should one consider these error-rates high or low? When I consider the high proportion of mild and ill-marked attacks of scarlet fever in recent years I must regard the percentage error as low. I do not think the diphtheria error-rate can be called low, and I imagine it is partly accounted for by the natural desire of the physician to send the sufferer to hospital in order that there may be as little delay as possible in the administration of antitoxin.

I must say, however, that I think the small-pox error higher than it should be in non-epidemic times; and chicken-pox should not be mistaken for small-pox to anything approaching the error-rate. I have often been told and often heard it said that medical men so seldom if at all get the opportunity of seeing small-pox. I have seen many a case of typical chicken-pox mistaken for small-pox, and I have been driven to the conclusion that this is not so much due to want of experience of small-pox as to the neglect of the study of chicken-pox. It is well known that great difficulty may occur in distinguishing between these two diseases, but the difficulty is rare and the error common. Some may think I strain this point, but I wish to emphasise the fact that though the medical man may have little chance of studying small-pox clinically, yet he will go a long way to minimise that difficulty if he studies chicken-pox closely.

Before I come to the diagnosis between the few diseases I purpose attempting to-night I wish to say that in no class of disease is careful and thorough examination more necessary than in the infectious diseases. It is essential to examine the whole skin surface, and the mouth and throat must be examined minutely in as good a light as possible.

Scarlet Fever and German Measles.

If the attack of either scarlet fever or German measles is well marked it is well-nigh impossible to mistake the one for the other if the observer is fairly well acquainted with each disease. Often, however, the attack is ill-marked, and to distinguish between an ill-marked attack of scarlet fever and a case of German measles which mimics the rash of that disease requires minute examination, a sound knowledge of both diseases and a high colour sense. Even then errors will occur with our present limited knowledge.

The onset of scarlet fever is often sudden and the sufferer feels really ill. The onset in German measles is seldom sudden; the sufferer usually has but little malaise, and the eruption is often the first evidence of the disease. The manner of onset seldom helps one when distinguishing between doubtful examples of these two diseases, for in many mild attacks of scarlet fever the onset is ill-marked and the rash may be the first evidence. On the other hand, though it is not common, the individual who is the subject of an attack of German measles may, comparatively suddenly, feel really ill, and I think this is rather more common when the adult is attacked by this disease.

I cannot say that I place much reliance upon the enlargement of certain glands in German measles from a diagnostic point of view, but it will be in favour of German measles if the post-auricular and occipital glands are much enlarged provided the head is not verminous. It is common for these glands to be enlarged, at all events amongst the poorer classes, from that cause. I may say that well over 90 per cent. of the female patients admitted to my hospital have either pediculi capitis and nits or nits alone. The percentage in the male sex is, of course, much less. Stiffness of the back of the neck and marked enlargement of the cervical glands for a day or two before the rash comes out are somewhat in favour of German measles.

Vomiting or pronounced nausea is frequent before the advent of the scarlet fever rash in children, and even in mild attacks is comparatively common, whereas in German measles it is rare. Of course, incidental vomiting may occur before the appearance of the German measles rash due to such common causes as errors in diet, hot weather, &c., and no doubt the disease may increase the chance. Nevertheless, the fact remains that vomiting in the invasion stage is highly in favour of scarlet fever, but it is to be remembered that vomiting or pronounced nausea is much less common when an adult is attacked.

Evidence of catarrh may help one in the invasion stage and for a day or so after the rash comes out, but only, I think, in so far as the ocular conjunctivæ are concerned. In a sharp attack of scarlet fever the ocular conjunctivæ may be considerably injected, but we are not concerned with well-marked attacks. In mild cases of scarlet fever the ocular conjunctivæ are rarely much injected, and are, indeed, commonly quite clear, whereas the condition is quite usual in German measles. On the other hand, it must not be forgotten that the ocular conjunctivæ may be quite free from injection in German measles, and even in quite mild attacks of scarlet fever some injection is occasionally seen.

The condition of the fauces is sometimes a help when one is in difficulty, but I must admit it is seldom so. The injection in German measles is diffuse, while in scarlet fever it is usually more pronounced on the uvula and along the free edge of the soft palate than on its surface. In many cases, however, this is of no help, and, in fact, in a good many very mild attacks of scarlet fever little, and in some no, injection is to be seen.

It may be easy to distinguish between the rashes of scarlet fever and German measles or it may be difficult or even impossible. If the rash of German measles is seen when it first comes out it is almost always quite easy to diagnose the case, for the light pink macules cannot well be mistaken for the rash of scarlet fever. However, in a few hours after the advent of the German measles rash it may, and does with considerable frequency, lose its original character and becomes diffuse. When this change takes place the rash may be more or less like scarlet fever; in some cases it is still comparatively easy to distinguish, in some difficult, and in others quite impossible. In a proportion of these cases, I think in a considerable majority, the macules and papules comprising the rash are not so well defined as in the rash of scarlet fever; in some they are exceedingly ill-defined. Occasionally, however, the mimicry of an ill-defined rash of scarlet fever is complete.

The colour of these rashes is a point of the first importance, and I wish I could describe this, for when these two diseases come to resemble each other the colour of the rash is often a great aid to diagnosis. The light pink of the early German measles macule is often greatly lost when the rash becomes diffuse, but, I think, almost always a tinge of pink is to be seen, and that tinge of pink is very rarely seen in scarlet fever. Here a high colour sense is necessary for the diagnostician and we have not all got that.

The distribution of these rashes is often of assistance in coming to a diagnosis. When the German measles macules first appear on the face and show in the circumoral region no error is likely to be made; but even when the German measles rash has become diffuse help is often to be found. The macular and papular rash of scarlet fever when profuse does not show the same niceties of distribution as when it is sparse or limited; but whatever the amount of the rash may be it very rarely occurs in the circumoral area or close by the side of the nose. This, however, is not of great assistance, seeing that when the rash of German measles has become diffuse it has often faded from the circumoral region, but if it has not completely done so the point is very useful. It is to be remembered that on rare occasions in German measles the rash does not affect the face at all, and that in scarlet fever a simple erythema or flush is not uncommon in the circumoral region. Further, in scarlet fever if there is a catarrhal condition of the nose some points of irritation may show in this region; this is not rare, and I have seen it cause doubt to a good diagnostician more than once. The presence or absence of the rash on the palms and soles does not help one very much, for there is often no rash on them in German measles, while a flush on the palms and soles is not uncommon in scarlet fever, and the macular rash is seen there in a small percentage of the cases. When the rash of scarlet fever is not profuse or is sparse or limited, much more rash will usually be found on the inner aspect of the thighs than on the outer, particularly at the upper part. In fact, in many cases this is so marked that a triangle of rash density having for its base a line near Poupart's ligament is graphically

shown. The same distribution applies to the arms, though usually it is not so marked as in the case of the thighs. The rash of scarlet fever is also often to be found in greater profusion on the side of the trunk than at and near the centre line of the chest and abdomen. The diffuse rash of German measles rarely imitates the distribution I have mentioned; and, indeed, the rash will usually be found in greater profusion on the outer than on the inner side of the thighs. Naturally there are exceptions to these points, and I have seen the rash of scarlet fever much more profuse on the outer than on the inner sides of the thighs; likewise I have seen the rash of German measles more plentiful on the inner sides. This distribution of the rash on the thighs is much less constant in German measles than in scarlet fever.

In some cases of scarlet fever a few tiny brick-red petechiæ are to be found intermingled at certain places with the macular and papular rash. Unfortunately for our purpose of diagnosis these petechiæ occur much more frequently in intense eruptions, but they are to be seen occasionally in sparse and limited eruptions. They may occur in most parts of the skin surface, but they particularly affect certain flexures and are most commonly to be found in the flexures of the elbow-joints, and perhaps above and below the clavicles. If these are found the diagnosis is much in favour of scarlet fever as opposed to German measles.

It must never be forgotten that though the rash of German measles may have become diffuse it may not yet have done so in its entirety, and a few light pink macules may remain in their original form. If there are any left they will usually be found on the buttocks or the back of the feet.

If the rash persists for four or five days it is strong evidence in favour of scarlet fever, for the rash of German measles rarely persists for three full days. This point, though not of much value, may occasionally be of some slight assistance.

Before leaving this subject it is well to remember that the rash of German measles sometimes appears first on the trunk and may not affect the face at all; and that the macular rash of scarlet fever does rarely occur in the circumoral area.

The condition of the tongue is often of great assistance in distinguishing between scarlet fever and German measles. The tongue in German measles is usually comparatively clean or slightly furred. In scarlet fever it often becomes rapidly covered with a thick creamy white fur, through which the bright red, elongated, and swollen papillæ show as red points, the extreme tip and edges of the tongue remaining unfurred and bright red. This condition usually persists for the first two days of the disease, and then on the third day the fur commences to peel off, starting near the tip and edges, though exceptionally the peeling starts at the centre of the dorsum. In the course of 24 to 36 hours, sometimes longer, the fur has completely separated from the dorsum, except perhaps towards the base. The tongue is then quite devoid of fur, except, as I have already stated, there may be some remaining towards the base, bright red, and dotted thickly over with protruding fungiform papillæ of a similar colour. From the point of view of diagnosis the most important of these stages is the second—the peeling tongue; the first—thickly furred stage—and the third—clean stage—also have their importance, but not to the same degree. Any of these conditions common to the scarlet fever tongue may be seen in German measles, but they are uncommon, and the rarest is the peeling of the tongue. One must not forget that in many cases of scarlet fever this peculiar condition of the tongue is not seen, and the less severe the faucial affection the less likely is it to be found, but intermediate conditions between a negative tongue and the scarlet fever tongue occur with comparative frequency and may be of assistance.

The pulse-rate in German measles usually corresponds to the temperature height, but in scarlet fever for at least the first two days of the disease it is much more rapid than is to be expected from the temperature. This point may be helpful, but in dealing with children it is not easy, owing to their excitability, to get their pulse-rate unless considerable time is first spent in making friends with them.

Should articular rheumatism occur about the sixth or seventh day of the disease it is very strong evidence of scarlet fever, but, as a matter of fact, in the class of case under discussion it seldom arises.

The pinhole desquamation of scarlet fever is often sufficiently pronounced to settle the diagnosis, whereas any desquamation that takes place in German measles is seldom more than powdering. In scarlet fever some slight powdering commences on the face about the third day of the disease, but pinholing is exceptionally seen. Then on the fifth, sixth, or seventh day or thereby pinhole desquamation commences about the lower neck, upper chest, or pubis, and should this desquamation become well marked the diagnosis is settled. It must not be assumed that a few pinholes scattered here and there are sufficient to found a diagnosis upon. Occasional ones may sometimes be seen in German measles and other conditions—for example, counter irritation may produce them; and, indeed, limited pinholing may be occasionally seen on an apparently normal skin. To warrant a diagnosis they must cover a fair area of skin and be numerous. Unfortunately a goodly number of cases of scarlet fever, and particularly the mild ones, do not show pinholing; and, indeed, in some no apparent desquamation occurs at all. The desquamation that occurs on the hands and feet in scarlet fever comes somewhat late to be of much value, yet it serves in helping to clear up the case, but this desquamation may be due to some other cause, particularly on the feet. Nephritis arising from the seventeenth to twenty-fourth day of the disease, or thereabout, will make the diagnosis of scarlet fever clear, especially if associated with desquamation on the hands and feet.

Measles and Scarlet Fever.

There is seldom much difficulty in distinguishing between scarlet fever and measles, and when doubt arises it is nearly always in the invasion stage of measles, especially when the case presents a scarlatiniform prodromal rash.

The onset of measles is usually gradual; there is seldom vomiting; no sore throat except perhaps a scrapy and dry feeling; there are catarrhal symptoms, cough, injection of the ocular conjunctivæ, possibly sneezing, and there is a varying degree of œdema of the skin of the face. These catarrhal symptoms become gradually more pronounced hour by hour in the invasion stage. In scarlet fever the onset is often sudden; there is usually vomiting, sore throat, and no catarrhal symptoms worthy of note. Occasionally a scarlatiniform prodromal rash appears in the invasion stage of measles; this is usually short lived, and the maculation is very indefinite, but it is usually accompanied by the aforementioned symptoms of measles which rule scarlet fever out of court.

It is true that sometimes a case of measles will be met with which has none of the usual symptoms and has a scarlatiniform prodromal rash; but even then Koplik's spots will almost certainly be present and will clinch the diagnosis. They are usually to be seen two or three days before the true measles eruption appears, and they neither occur in scarlet fever nor, I believe, in any other disease. They may appear four days or more prior to the measles rash, but occasionally only the day before, and provided careful examination be exercised they can practically always, if not always, be found. When looking for these spots it is essential, in most instances, to have a good light shining on the point under observation, and it is often necessary to raise and depress the point of the tongue depressor so as to move the mucous membrane and thus get the glint of light necessary to cause the bluish-white dots to be seen more readily.

When first seen the spot consists of an irregularly rounded small patch of a bright red colour showing on its centre a bluish-white dot. Usually these rapidly increase in number, and the red areolæ round each dot joins other areolæ until the mucous membrane is for the most part, or entirely, brightly injected, and shows scattered over it innumerable bluish-white dots. Occasionally, however, the mucous membrane will be found brightly injected all over when first seen and no bluish-white dots visible; but a second examination in a few hours, at most 24, will disclose them. When they are so numerous as I have suggested they are usually readily seen in a good light unless they are exceptionally tiny; but though they are ordinarily numerous they are not always so and occasionally only a very few are to be found. If few in number, the most likely place to find them is on the buccal mucous membrane opposite the molar teeth, but should they not be found there a lengthy search is often necessary.

I sometimes find that an exaggerated idea of the size of these bluish-white dots exists. A large size would correspond to the head of a small pin, provided there has been no

coalescence, a small to the point of the same, and naturally intermediate sizes are more usual. I have not found them on the gums, the tongue, or on the hard palate, but on a few occasions I have seen them on the soft palate. If a very large crop of them is present on the buccal and labial mucous membrane it is not uncommon for some to coalesce and thus form larger spots; but, even then, if one is well acquainted with the Koplik spot, there is no possibility of confusing it with any other condition.

When the measles rash has commenced to appear, or is fairly well developed, confusion with scarlet fever is most improbable. The character of the measles rash, its appearance in the circumoral area, behind the ears, on the forehead near the roots of the hair, &c.; the absence of sore throat; the catarrh and Koplik's spots all make the diagnosis easy. It is true that Koplik's spots often disappear soon after the measles rash appears, but they are usually present for the following 24 hours, and I have seen them persist for four days after the appearance of the rash.

Occasionally a case of scarlet fever is mistaken for measles owing to a patchy eruption of the extremities, particularly on the arms. This is an error that should scarcely be made since the normal rash of scarlet fever will be present on the trunk and other symptoms will almost certainly be found, for these are usually well-defined cases.

In scarlet fever about the eighth day or later a morbilliform rash may appear, but this is a septic rash occurring in certain cases of scarlatina anginosa. It often affects the face and entensor surfaces of the extremities, particularly the elbow and knee-joints, though it may be general. It is commonly of a deeper red colour than the rash of measles, though by no means always so. But apart from that the condition of the throat, the nasal discharge, the swollen condition of the glands of the neck, and the knowledge that such an eruption in this class of case is common puts measles out of the question.

Small-pox and Chicken-pox.

In distinguishing between the early eruptions of small-pox and chicken-pox, great difficulty may be experienced, but this is seldom so, for these two diseases show marked points of difference all of which rarely fail one.

I am tempted to think that too great reliance is sometimes placed upon the less important differences to the great detriment of the all-important ones. Nowadays, small-pox is mostly a disease of adults, chicken-pox of children, and consequently if the eruption is on an adult, a suspicion that it may be small-pox sometimes crosses the observer's mind, and may mislead him. Occasionally, a medical man meets with a very abundant eruption of chicken-pox, and that fact may suggest to him that after all the case is possibly small-pox; and this is particularly so if it happens that a few of the lesions run into others. Confluent chicken-pox, as understood, is rare, but that an occasional lesion should join another is not. Again, in adults suffering from chicken-pox, headache and backache are sometimes complained of, and this appears to be an occasional cause of error; but it is not uncommon for the adult who contracts chicken-pox to suffer from headache and backache. Also an initial erythema may accompany or precede the eruption of chicken-pox, but the character of the initial erythemas of chicken-pox should not lead one astray.

No one of these lesser points I have mentioned is of very much importance, and while noting them the observer ought not to balance them against better evidence.

The most important diagnostic point is the distribution of these eruptions, and, though not infallible, it is of such value that too much stress cannot be laid upon it; for the exceptions that occur are almost always partial. I cannot now go into the detailed distribution of the small-pox eruptions which Ricketts, in that admirable text-book on the diagnosis of small-pox by himself and Byles, so ably sets forth. The lesions are most numerous on the face, next on the upper extremities, then on the lower extremities or back. They are more numerous on the forearms than on the arms, and still more so on the hands, and in a lesser degree the same rule holds good for the lower extremities. They are more numerous on the back of the trunk than on the front and over the upper part of it than on the lower. The eruption prefers the extensor surfaces to the flexor and the prominences to the hollows and shallows.

The lesions of chicken-pox particularly affect the trunk, next the face, then the extremities, and on the extremities they become less numerous the more distal. It is true the eruption is usually more dense on the back of the trunk than on the front, but it shows no preference for the upper part of the trunk as compared with the lower. It shows no preference for the extensor surfaces as compared with the flexor, and it does not shun the shallows and hollows; indeed, in a limited eruption it is rare not to find lesions in the axillæ.

The lesions of small-pox are deep-seated, those of chicken-pox very superficial, as may be best demonstrated by picking up individual lesions between the finger and thumb where the skin is soft and loose. It is undesirable to draw the fingers across the forehead to feel for a shotty eruption, for this is not unusual in chicken-pox. In modified small-pox the lesions may be less deep-seated; and rarely the lesions of chicken-pox are not superficial, but superficial lesions will almost certainly be found somewhere. The vesicles of small-pox are usually circular, those of chicken-pox vary in shape, some being round, some irregularly elongated with the skin crease, some irregularly rounded, and even jagged. On the hands and feet the chicken-pox vesicles, if present, are very often small and round and ill-developed, whereas the lesions of small-pox are better developed on the hands than elsewhere.

The lesions of small-pox are comparatively slow in development, those of chicken-pox rapid. In small-pox they usually appear first on the face or on the backs of the hands or wrists; their appearance on the legs may be a day later, and at any given part some will be behind their fellows, but the development of all being equal, the late comers will keep their relative stage. The chicken-pox lesions usually appear first on the trunk and others follow for the first few hours. The macular stage is short-lived, and a papule is formed upon which a vesicle soon commences and is fully developed in from 6 to 24 hours, whereas even in modified small-pox vesiculation will not usually have commenced by the end of 24 hours. In chicken-pox so quickly do some of the vesicles appear that they are seen practically as soon as the macule becomes a papule, and so delicate is the covering of many of them that they quickly become ruptured by one means or another and scabs form. Since some of the macules and papules abort and some of the vesicles are arrested in their development the chicken-pox eruption in a few hours from its commencement will show the presence of lesions in most stages except the pustular. Several crops of chicken-pox eruptions may occur, but there is nearly always a second, and it usually appears about 24 hours after the original eruption, when most probably macules, papules, vesicles, their abortions, pustules, and scabs will all be present.

If a small-pox vesicle be pricked and pressed only a portion of the contents usually escapes, and it does not collapse, but in chicken-pox it commonly does; yet too much stress must not be laid upon this, for sometimes the small-pox lesions will collapse and the chicken-pox will not.

A proportion of the vesicles in small-pox are usually umbilicated, whereas in chicken-pox they are mostly dome-shaped, but sometimes in small-pox none are umbilicated, and occasionally a false umbilication of the chicken-pox vesicle is seen. Further, flat-topped vesicles are occasionally seen in both diseases.

Tottenham, N.

THE ROYAL SANITARY INSTITUTE.—A provincial sessional meeting of this society will be held at Manchester on March 8th and 9th. The meeting on Friday, March 8th, will be held in the Municipal School of Technology, Sackville-street, Manchester, at 7.30 P.M., when discussions will take place on the Application of the Housing and Town Planning Act to the Re-development of Suburban Areas now in Process of Transition, to be opened by Mr. F. W. Platt, the building surveyor of Salford; and the Quantity of Water Available from Upland Drainage Areas, to be opened by Professor J. Radcliffe. On Saturday, March 9th, the new service reservoir at Heaton Park and the new lake will be inspected under the guidance of the resident engineer. Those wishing to be present at the discussions or visits should send their names to Professor J. Radcliffe, M.Sc., Municipal School of Technology, Sackville-street, Manchester, or the secretary of the institute, not later than March 5th.

CYSTITIS: ITS CAUSES AND ITS TREATMENT.

BY DAVID NEWMAN, M.D. GLASG., F.R.F.P.S. GLASG.,
SURGEON TO GLASGOW ROYAL INFIRMARY.

(*Concluded from p. 496.*)

Treatment.

It is very evident that, cystitis being due to so many different causes, the treatment must be regulated by a careful consideration of all the etiological factors involved. A cystitis resulting from a descending infection from the kidney cannot be remedied before the renal affection is cured. The removal of a stone, the dilatation of a stricture, or the excision of an obstructing prostate may be all that is required to deal successfully with a secondary cystitis. But when the cystitis is the cause of all the trouble, or the primary factor has been removed or dealt with, certain measures may be adopted according to the nature of the infection, the symptoms which present themselves, and the stage of the disease.

I. *Mild Bacillus Coli Infection.*

Mild bacillus coli infection of the bladder leading to juvenile incontinence or involuntary nocturnal micturition in children, and the cystitis so commonly met with during and after pregnancy, may be first considered.

When the case comes under observation at the onset, and the condition is fully recognised, the treatment is usually successful.

(*a*) *Internal medication* has for its objects to lessen the irritation of the vesical mucous membrane as rapidly and effectively as possible, to hinder the propagation of the infective organisms, and to clear them out of the bladder, for if this is not effectively done there is always liability to recurrence.

The first object is accomplished by rest, hot applications, and by rendering the urine as bland and dilute as possible. Large quantities of fluids are taken: barley water, flaxseed tea, and drinks containing acetate and citrate of potash. To allay pain and spasm the hips should be well raised on a hard pillow, in order that the abdominal viscera and the contents of the bladder may gravitate so as to relieve pressure on the neck of the bladder as much as possible, and the rectum should be kept empty by giving confection of sulphur and confection of senna in equal parts as a laxative. Phenacetin and extract of hyoscyamus may be given internally in 5 grain doses, and if the pain is very acute and vesical tenesmus is present a rectal injection of two teaspoonfuls of starch containing antipyrin and laudanum may be administered. Urinary antiseptics should not be employed in the acute stage as they are too irritating.

(*b*) The administration of *urinary antiseptics* by the mouth and local applications to the bladder are not suitable during the acute stage, but as the inflammation declines treatment should be directed to reducing the activity and power of propagation of the micro-organisms, and in the end rendering the urine aseptic.

For this purpose the administration of boric acid is most useful when the inflammation is limited to the bladder, but when the kidneys are also involved the drug is not tolerated—it at once upsets digestion. Helmitol is better than urotropine, but the action of both must be carefully watched as their action varies greatly in different cases. Sometimes they suit admirably for a time, and then suddenly they act as irritants. The ammonia salts of formaldehyde, if administered for a length of time, are liable to act in this way. In cases where the urine is acid, as in bacillus coli infections, formalin is liberated from these preparations and creates irritation, but if the urine be rendered neutral or alkaline by potash or lithia salts this difficulty is overcome.

(*c*) *Local applications* in these milder forms of infection are as necessary as in the more virulent diseases, but less powerful methods are called for. If employed within a short time of the onset of the infection irrigation with boric acid solution, quarter strength, that is to say, one part of saturated solution to three of sterile water, is most useful if the washing out is thorough. The bladder should be fully but not overdistended four times at each washing, and this should be repeated every second day till the urine passed on the second day fails to give growths on cultivation or infection by inoculation of animals. Unless these tests are applied we have no guarantee that the patient is safe.

In cases which have become chronic, as in children who suffer from involuntary nocturnal micturition, and women who complain of frequent and painful micturition as a consequence of inflammation of the neck of the bladder or the urethra, local treatment is required over and above what has been described.

In involuntary nocturnal micturition not due to extrinsic causes, the neck of the bladder or the urethra is usually congested. This may be cured by careful instillations of nitrate of silver 1–2 grains to the ounce, after washing out the bladder with sterile water and emptying it. In a child 3 ounces may be injected and left in the bladder. As soon as urine flows into the bladder the silver salt becomes combined with chlorides and forms an insoluble salt.

When the vesical end of the urethra or the mucous membrane of the canal is involved the duct should be dilated freely, a speculum introduced, and the whole passage swabbed with pure phenol, and immediately washed with a solution of bicarbonate of soda to check the action of the carbolic acid. The pain that follows is sometimes severe for the first few days, but is easily relieved by cocaine bougies or morphine, and generally in a week or ten days all the old troublesome symptoms have disappeared.

II. *Acute Cystitis.*

The treatment of the severer forms of acute cystitis due to pneumococcus, streptococcus, gonococcus, or tubercle bacillus is constitutional and local. At first pain, frequent desire to pass urine, and tenesmus are the symptoms which require immediate attention. The patient must remain in bed, and the symptoms may be relieved by warm baths and sitz baths with aromatic herbs, or hot moist compresses may be kept on the abdomen. Diet should be plain and the quantity limited, and, as indicated above, bland fluids should be given in considerable quantity. The drugs given must depend upon the reaction of the urine, but in all cases phenacetin and extract of hyoscyamus—for an adult 5 grains of each three times daily—should be taken. Opium should be avoided, but morphine may be given hypodermically if demanded on account of the pain. The bowels must be kept free but not purged, except once at the onset, with calomel, followed by a saline.

The reaction of the urine determines the other drugs prescribed. The excretion should be kept as nearly neutral and as dilute as possible. Great quantity of fluid does not lessen the frequency of urination, but it lessens the pain and washes out the bladder from above, when washing out from below is inadvisable. The more frequently the contents of the bladder are changed the less toxic the urine is rendered. It is when the excretion suddenly diminishes that dangers of sepsis may be looked for.

As early as possible the organisms producing the attack should be isolated and a vaccine prepared from them and administered as soon as convenient. If they are found to be urea-decomposing organisms every endeavour should be made to keep the urine acid, but if they are pure cultures of bacillus coli, tubercle bacillus, or streptococcus pyogenes, alkalies or salts, which reduce the acidity of the urine, may be freely given.

A few words may be said in regard to the use of *vaccines* in cystitis, but, while admitting the value of this treatment, it must not be employed to the neglect of other general and local remedies. The preparation of vaccines and the mode of determining the opsonic index cannot be considered here. The vaccines are standardised emulsions of microbes, sterilised, in 1 per cent. saline solution, and when injected subcutaneously produce active phagocytosis and an antimicrobic substance which induces a process of immunisation which may be gauged by what has been called the "opsonic index." This term, introduced by Wright, is very convenient for expressing the phagocytic activity of leucocytes in an infected individual as compared with a normal man, but the process is so complicated and the danger of error so considerable that it is very doubtful if these estimations are of the value placed upon them by their author, perhaps with the exception of observations in tuberculosis.

Not infrequently, while waiting for the vaccine to be prepared, marked progress towards recovery may be obtained by the older therapeutic methods. Having adopted the general instructions referred to, doubtlessly they may be aided greatly by giving auto-vaccines procured from cultures

of the organisms giving rise to the cystitis. But as the preparation of the auto-vaccine involves a delay of five to six or seven days, it is well to discover as early as possible the nature of the organism present, and use a stock vaccine until the auto-vaccine is ready. Stock bacillus coli vaccine is not a good substitute for an autogenous vaccine. Coliform bacteria are a family, and the number of different strains met with are so considerable that it is necessary to have special vaccines prepared to meet each individual case; in gonococcus, streptococcus, pneumococcus, and staphylococcus infections stock vaccines are satisfactory temporary substitutes for the autogenous vaccine.

Vaccines are of special value in acute cases, and should be used at once. A few years ago it was regarded as necessary to regulate the dosage by the opsonic index, but now the practical surgeon can not only look upon, but he may call the opsonic index a bogie, without being dubbed a heretic. The dose of vaccine and the frequency of administration, like any other therapeutic measures, must be regulated by the individual case. Small doses—5,000,000 or less—at one time and repeated every three or four days in acute cases give the best results. In chronic cases, to begin with, the same doses may be given, and gradually as time passes the dose may be increased and the intervals prolonged until 40,000,000 or 50,000,000 are being given once a fortnight. The vaccine should be continued until the urine is sterile, as proved by cultures and inoculation. The cure must not be judged by the disappearance of symptoms only; if it is, a relapse is likely to occur. In tuberculosis the opsonic index is of value, and when possible should be employed in treatment by tuberculin, but not having means to ascertain the opsonic index should not prevent the surgeon giving the patient the advantage of this treatment. Of tuberculin R., the strength of which is such that 1 c.c. represents 10 mgm. of dried bacilli, a small dose should be given at first—e.g., 0·00001–0·00002 mgm. of dried bacillary substance, and this may be gradually increased to ten times the amount according to circumstances.

As regards *local treatment*, what has been said in respect to the treatment of bacillus coli infection applies here—only stronger remedies are demanded. The idea in using germicides in cystitis is not to kill all the organisms at once but to reduce their virulence, and as far as possible their power of multiplication. To use drugs of sufficient strength to destroy the cocci would seriously injure the living tissues. The following remarks apply to all infections other than tuberculous—it will be considered separately.

In acute cystitis the local treatment consists of *irrigation* and *instillations*. Both are employed with the purpose of getting rid of the organisms that have gained access to the bladder, the former by washing them out, the latter by destroying the infective matter and acting as a remedial agent to the mucous membrane. In all cases of infection of the bladder what we aim at in employing irrigation is thorough cleansing with a mild germicidal drug such as permanganate of potash, protargol, or argyrol in order to lessen the activity of micro organisms. It is impossible by means of local applications to sterilise the bladder, as the agents to do this would require to be so powerful that they would irritate and injure the mucous membrane and do harm instead of good. The bladder should be emptied and for the first two or three irrigations washed simply with warm sterilised water, then gradually solutions containing one of the drugs mentioned may be employed—permanganate of potassium (1–2000), protargol or argyrol (3 to 5 per cent. solutions), boroglyceride (5 per cent.).

For instillations in recovery from acute cystitis weak solutions of nitrate of silver are the best, 1/10 grain to the ounce, gradually increased to ½ grain to the ounce; later oxycyanide of mercury in weak solutions, 1-4000, will be found of great value. Local treatment will be referred to later when considering the question of chronic cystitis, but here it may be stated that irrigations or instillations must be continued so long as any organisms are found in the urine, otherwise recurrences are liable to occur or a chronic catarrh become established.

When acute cystitis comes on in the course of a chronic affection of the bladder or in a weak elderly patient arising from any cause, but especially when there is urinary obstruction due to tumour, calculus, enlarged prostate, or urethral stricture, the condition may become very serious suddenly, and require prompt treatment to avoid general sepsis. Clearly the first indication is to relieve the obstruction and give free exit to the urine, and this should be at once done by establishing a suprapubic drain. The acute inflammation of the bladder must be allowed to subside before any attempt is made to deal with the other conditions present. Suprapubic cystostomy when performed early is such a safe operation, and so immediately followed by relief of symptoms and release from danger, that in such cases there should be no hesitation in resorting to it.

Chronic Cystitis.

Chronic cystitis is generally associated with incomplete evacuation of the bladder, so the first essential point to attend to is to see that its contents are emptied at regular intervals and that the source of obstruction is removed.

The whole condition of the individual case must be carefully considered. In some instances a cure may be effected by prolonged constitutional and mild local treatment, in others the sooner a suprapubic drain is established the better. In the former the whole life of the patient must be carefully regulated. Diet must be simple and moderate in amount, exposure to cold and wet, travelling, riding, cycling, or much active exercise must be avoided. Fluids should be taken in good quantity and milk diet adhered to three days a week, and stimulants, unless in exceptional cases, are not admissible. Saline and sulphur baths are useful, and the administration of infusions of uva ursi, pareira brava, or triticum repens, in doses of 8 ounces three times daily, so long as the digestion is not disturbed is advisable.

Internal remedies are not of much service if we except boric acid and helmitol, or a combination of boric acid and benzoate of soda. When the urine is acid alkalines and alkaline salts are indicated, but when it is alkaline the administration of drugs has no influence upon its reaction, which is due to decomposition of urea in the bladder.

A cystoscopic examination having demonstrated the lesion present, suitable local treatment must be employed in combination with the general treatment above indicated.

(*a*) Cases of uncomplicated chronic cystitis due to an *organism which does not decompose urea* are best treated by regular irrigation; simple withdrawal of the urine is not sufficient. In infection by bacillus coli frequently the bladder wall is coated with flaky mucus which adheres firmly to the mucous membrane, and this must be washed away by irrigating the bladder very freely morning and evening *regularly*. Regularly, because if the irrigation be interrupted before the bladder is thoroughly cleansed the bacilli have an opportunity of reasserting themselves. Distend the bladder as fully as possible short of producing pain, and empty it from four to six times at each sitting. This must be done by the surgeon, not by the patient, however practised he may be in the use of the catheter, and with a syphon arrangement. Syringes are no use.

If a patient is lying upon his back or even standing, and say 12 ounces of fluid is introduced by a syringe and the fluid allowed to escape through the catheter, not nearly the whole of the fluid may come away; but if the catheter is continuous with a syphon tube with a 2-foot fall, not only will the bladder be completely emptied but the solution will be withdrawn rapidly and with suction, and the cleansing thereby rendered more thorough. Besides, by using a syphon the pressure employed is known; with a syringe it is impossible to judge the force employed.

The simplest plan is to have the first limb of a T-tube fixed to a gum-elastic catheter; from the second limb of the T have a clipped rubber tube leading from an irrigator elevated 2 feet above the bed to give ingress pressure; and to the third limb have a clipped rubber tube falling to a vessel on the floor, which will give an egress suction of a 2-foot fall. Fill the tubing and catheter with solution, close the ingress tube with a clip, and then, having introduced the catheter into the bladder, open the clip which allows the contents to escape, but do not empty the bladder, as it is liable to cause irritation. Then close this clip and open the ingress tube, distending the bladder till the patient complains; then allow the solution to flow out into a glass vessel, and repeat the irrigation until the fluid escapes perfectly clear. This is repeated morning and evening until the urine passed naturally is sterile.

A cystoscopic examination should then be made, and if irritation be noticed at the neck of the bladder one or two instillations of nitrate of silver by means of Guyon's catheter may be given. The bulb of the catheter is passed beyond the grasp of the compressor urethræ, and a 1 per cent. solution of nitrate of silver is slowly passed in until 20 to 30 drops have been injected. They are allowed to remain, and their action is soon neutralised by the salt in the urine.

(*b*) When the cystitis is due to *organisms which decompose urea* the carbonate of ammonia formed renders the urine very irritating and offensive, so that the bladder and urethra are less able to tolerate active local treatment than in the cases above described. Consequently great care is required in the selection of the agents to employ, in fear that the irrigation in place of relieving the condition may aggravate it. Probably the best agent to use to begin with is permanganate of potash 0·025 per cent., and gradually increasing to 0·1 per cent. solutions. At first the bladder may only admit a small quantity. In such instances continuous irrigation for ten minutes through a double catheter is most useful, the ingress irrigation being raised to 2½ feet and the egress vessel to 1½ feet, so that the fluid within the bladder is submitted to a constant pressure of a little over 1½ feet column of fluid. This may be repeated daily.

When the urine is alkaline after irrigating an instillation of pure lactic bacillus cultures in milk whey or the filtrate of saurine may be employed with great advantage. By setting up an acid fermentation the urea-decomposing organisms are weakened or destroyed and the phosphates dissolved.

If irrigation improves the condition of matters, the micturition becoming less frequent, the urine less purulent and offensive, and the general health of the patient more satisfactory, then other agents, such as boric acid, acetate of lead (1–2000), or nitrate of silver 1/12th grain to the ounce, may be used with advantage, and finally instillations of a stronger solution may be employed.

Notwithstanding careful local and general treatment, a certain number of cases of chronic cystitis persist, especially in those in which there is residual urine, or in which the kidneys are involved in the infection. In these, continuous drainage by tying in a catheter has been recommended by some surgeons, with the precaution that a soft rubber instrument should be used, removed daily and sterilised and reintroduced. Beneficial results are sometimes obtained, but more commonly the urethra becomes intolerant of the catheter and the treatment is discontinued.

Often in these patients the cystitis has led to an inflammatory enlargement of the prostate, and the contents of the bladder are found to be so viscid that they will not flow through the catheter or wash out with the irrigator. When this is so, or when there is hypertrophy of a muscular coat and sacculation, stone or tumour, a *suprapubic drain* must be established to give free exit to the contents of the bladder and allow of thorough cleansing. A temporary drain of this kind is by far the most effective treatment of chronic cystitis, and even in the most persistent and intractable cases astonishing results are obtained. Not only does the urine become healthy and the mucous membrane normal, but large, inflamed, softened prostates subside, and in a few weeks the wound may be allowed to close. In many cases this inflammatory enlargement is liable to be mistaken for hypertrophy of the prostate, and the danger is that the prostate may be excised when a cure might be effected by drainage alone. The drainage employed is by syphoning the urine into a suitable vessel so as to permit the patient to go about with freedom. The method used for the last nine years[1] is easily carried out and has been very successful.

In cases in which it is necessary to drain the bladder for a considerable period it is a great comfort to the patient to be able to move about unhampered by bulky and often soaked dressings. When such dressings are used the patient is not only hindered from following his occupation, but on account of the offensive odour necessarily connected with them he is precluded from associating with his fellows. Direct drainage by syphoning the urine into a suitable vessel permits the patient to go about with freedom, the skin and clothing are kept dry, the patient is not incommoded by the constant changing of dressings, and considerable expense is saved.

Take, for example, a case in which for chronic cystitis from infection with staphylococcus pyogenes aureus suprapubic cystotomy has been performed. At the operation a large drainage-tube in inserted through the wound into the bladder. The following day to the outer end of the rubber tube a glass T-tube is fixed and kept in position by a shield of block tin. To protect the skin a fold of gauze is placed below the shield, and over it a firm belt or bandage to keep it in position. To the upper limb of the T-tube a short length of rubber tubing is attached and to the lower limb a tube about 3 feet long. This tube is carried to a glass tube, which passes through a rubber cork to the bottom of a small wash-out cistern which has been nearly filled with boric solution. By fixing an empty syringe to the short length of rubber tubing and exhausting, the fluid from the cistern is drawn up to fill the rubber tubing, when the short tube is clipped. The cistern is fixed to the side of the bed, giving the fluid a fall of about 14 inches. When the cistern is filled above a certain level the syphon action comes into play, and the cistern empties its contents through a tube into a vessel placed on the floor. For the first week a small dressing is required, and may be changed once daily if soiled. When the wound has healed and the patient is able to be out of bed the wash-out cistern should be replaced by a flask.

An "Alexandra" baby's feeding-bottle with a rubber stopper answers admirably. The lower tube is fitted to the tube in the flask, which is turned up at the lower end so as to prevent air entering and the tubing becoming empty, when it is withdrawn from the flask. When the patient is going about the flask may be carried in a hip-pocket, or if this is inconvenient its place may be taken by a rubber urinal.

This drainage must be supplemented by careful irrigation, and if the urine is alkaline, or contains alkaline phosphates after irrigating, an instillation of lactic bacillus cultures should be given. Milk whey containing pure lactic bacillus not only destroys the septic organisms in the bladder but also dissolves phosphatic crusts adhering to the bladder or the wound. The filtrate of saurine does admirably and may be used with advantage in all purulent conditions. A suppurating sac or a granulating surface thoroughly washed regularly with it cleans up rapidly; it acts more satisfactorily than any chemical antiseptic, and the lactic acid bacillus not being a pathogenic organism does no harm. In some cases quite remarkable results have been obtained.

In very contracted bladder it is difficult to expose the organ, and a considerable thickness of wall requires to be cut through before the cavity is reached. But when the source of irritation is removed and free exit given to the urine it is astonishing how soon the bladder becomes capable of distension. In cases where with the finger through the suprapubic wound the bladder felt like a hard ball with a cavity of the size of a walnut, the patient has ultimately been able to retain from 12 to 15 ounces of urine, and micturated not more than four or five times in 24 hours.

(*c*) Cystitis consequent on *infection by tubercle bacillus* is in almost all cases secondary to tuberculous nephritis, and so long as the kidney is excreting infected urine into the bladder no treatment of that organ is of any avail. First to be considered are those cases where both kidneys are involved or where the affected kidney cannot be removed; secondly, cases in which nephrectomy can be done; and thirdly, those rare cases of primary vesical tuberculosis.

The first category are very hopeless, and all we can do is to alleviate suffering. So long as the infection is pure the symptoms are not very severe, but when it becomes mixed—namely, both tuberculous and septic—general cystitis is set up, and adds greatly to the seriousness of the disease and the suffering of the patient. Hence the employment of the catheter must be undertaken with a full sense of the responsibility involved in keeping the bladder thoroughly aseptic. These cases are unusually liable to infection, and it is very questionable if benefit should be sought from local treatment so long as the urine remains acid.

For the relief of pain morphine or belladonna suppositories are useful, and phenacetin and hyoscyamus given internally are most effectual. In those hopeless cases of general cystitis caused by mixed infections often the continual pain and constant desire to micturate can only be relieved by cystotomy and drainage. Of course, in such instances no attempt can be made to remove the disease.

[1] A Method of Draining the Kidney and Bladder, Glasgow Medical Journal, September, 1907.

In tuberculous cystitis secondary to unilateral renal infection, after nephrectomy the bladder condition may heal spontaneously. At all events, in such cases the primary affection must be dealt with first. Supposing the kidney has been removed and some months have been allowed to pass but still the bladder condition remains troublesome, and the cystoscope shows little or no improvement in the appearances, what should be done? It is taken for granted that general constitutional treatment has been carried out: tuberculin R used, regulated by the opsonic index, tonics, iron, strychnine, cod-liver oil, and urinary antiseptics have been prescribed; the patient has had the advantage of open-air treatment and regular dieting. Instillations and irrigation have not given encouraging results and often do harm.

The perchloride of mercury has certainly done good in some cases, but in the majority the effect has been harmful. Lactic acid, pyrogallic acid, creosote, and nitrate of silver are of no value as remedies. Guaiacol along with iodoform mixed in oil, 2 to 3 per cent., is most useful of any, but probably the best results are got by introducing four ounces of sterilised olive oil, or an emulsion of iodoform in olive oil, and instructing the patient to micturate standing until he notices the oil coming away, and then to stop. Some of the oil remains in the bladder, generally for 12 or 18 hours, and certainly helps the healing process. The injection may be repeated every day, and the bladder should be well washed out prior to the introduction of the oil.

Rovsing has reported good results from the injection of 100 c.c. of a 0·5 per cent. solution of carbolic acid in water. He allows it to remain in for five minutes, then draws it off through the catheter. The writer also has had good results from this treatment, better probably than from any other. But it must be combined with complete rest in bed.

Should time pass and still cure be delayed, four courses are open: (1) Instillations of perchloride of mercury; (2) curetting the bladder, in the female per urethram, in the male through a suprapubic opening; (3) injection of 2 per cent. thallin sulphate; and (4) suprapubic drain.

There is no doubt perchloride of mercury 1–20,000 to 1–10,000 parts of sterilised water produces a very beneficial result, and certainly warrants a fair trial. But as it occasions considerable pain the patient is often unwilling to give the treatment a chance. To use cocaine or other local anæsthetic before the instillation is inadvisable, but a subcutaneous injection of morphine or a general anæsthetic may be used. The instillation of half an ounce of the solution should be administered every third day on three occasions, then discontinued for a fortnight, the patient being kept at rest but not in bed. Nitrate of silver instillations should never be used.

Curetting the tuberculous ulcers or nodules through the urethra in the female, or a suprapubic wound in the male, often helps matters very much, and the establishment of a suprapubic drain gives the bladder rest and free exit to the urine, and at the same time the viscus can be carefully and regularly douched, either with weak boric acid solution, 0·5 per cent. solution of carbolic acid, or 2 per cent. thallin, and the ulcers may be swabbed with pure phenol through a speculum, and the action of the agent checked by washing afterwards with a solution of bicarbonate of soda.

The following statistics collected by Walker are of interest[2]:—

Summary of Walker's Statistics.

—	Cases.	Cured.	Deaths.	Improved.	Not improved.	Worse.
Nephrectomies	16	9	5	2	—	—
Nephrotomies	2	—	2	—	—	—
Suprapubic cystotomy, curetting	121	9	28	48	34	—
Curetting *vid* female urethra ...	17	2	0	5	10	—
Perineal section	21	0	10	5	3	3
Vesico-vaginal incision	5	0	1	4	—	—
Total	182	20	46	64	47	3

[2] Watson and Cunningham: Diseases and Surgery of the Genito-Urinary System, vol. ii., p. 414.

Non-operative Methods.

—	Cases.	Cured.	Deaths.	Improved.	Not improved.	Worse.
Injections of iodoform	31	1	—	23	7	—
Of sublimate	38	2	—	18	15	3
Of guaiacol	2	—	—	—	2	—
Gemol	2	—	—	1	—	1
Tuberculin...	4	—	—	—	2	2
Climatic or medical	18	6	—	12	—	—
Total	95	9	—	54	26	6

The above statistics date from 1907, and hence do not give the best results now obtainable. The diagnosis can now be made at the beginning of the disease, and the primary focus of infection in the kidney can be removed at an early date in the history of the malady. If this be done, followed by free drainage and complete rest of the viscus for several weeks, together with the administration of tuberculin R., with the dosage regulated by the opsonic index, there is some hope that vesical surgery will be elevated out of the pitiful position it not long ago occupied in relation to tuberculosis of the bladder. Until five years ago cystostomy was employed in the late stages of the disease only, when the patient was tortured by pain and frequent micturition. While in such cases it undoubtedly gave marked relief of the symptoms, from the very nature of the conditions present the operation could not be expected to be a curative one. Now, when attacked early—namely, while the mucous membrane alone is involved, as demonstrated by the cystoscope—cures may be obtained. The writer intends publishing at an early date cases in which perfect healing has taken place, and the patients are now alive and well.

Glasgow.

TWO CASES OF

VOLVULUS COINCIDENT WITH STRANGULATED HERNIA.

BY FORBES FRASER, F.R.C.S. ENG.,
SURGEON TO THE ROYAL UNITED HOSPITAL, BATH.

CASE 1.—The patient was 55 years of age and had for years been the subject of a large inguinal hernia. After a hearty supper on the evening of March 13th, 1910, he had sudden pain in his abdomen and vomited several times. The vomiting brought down the hernia, and he was unable to get it back. During the night he had violent diarrhœa and more vomiting, and early next morning he was admitted to the Royal United Hospital.

When I saw the patient there he was complaining of severe abdominal pain, and was constantly vomiting bile-stained fluid without fæculent odour. He looked pinched and ill, his pulse was weak (100 to the minute), and his temperature 99·2° F. There was present a very large right scrotal hernia, obviously strangulated. His abdomen was moderately distended, tender, and rigid, but no swelling could be felt.

Operation was performed 14 hours after the onset of the symptoms. An incision was made over the sac, which contained much dark-brown foul-smelling fluid. The bowel was dark and ecchymosed. A constriction at the neck of the sac was divided, and on pulling down the intestine its condition above the site of strangulation was found to be no better than that below. Coil after coil of black swollen bowel was pulled down, till the origin of the trouble was found to be in a twist which had occurred 3 inches from the ileo-cæcal valve. At this situation a loop of ileum had formed a half-turn on itself from left to right, and here both limbs of the loop were completely gangrenous. The peritoneal cavity contained a large quantity of blood-stained fluid. It was felt that the only chance of recovery lay in the complete removal of the volvulus, so the wound was enlarged upwards and the whole resected. The method used was that which has been described by Barker, the divided distal end of the portion

of bowel about to be removed being allowed to hang over the side of the table and syphon off its contents into a pail while the mesentery was being ligatured off. The divided ends were then closed and a lateral anastomosis was made between the remains of the ileum and the cæcum. A drain was left in the neighbourhood of the junction and the wound was closed. Three pints of saline solution were infused into a vein while the operation was in progress. The portion of ileum resected was found to measure 7 feet in length.

The patient made an uninterrupted recovery, the bowels acting naturally on the third day. During his stay in the hospital he generally had one loose action of the bowels every day, and the restoration of his strength did not appear to be in any way retarded by the loss of so large an area of absorbent surface.

CASE 2.—The patient, a woman, 74 years of age, was admitted to the Royal United Hospital in February, 1911, with a history of complete intestinal obstruction and abdominal pain for eight days, and of vomiting for two days before admission. About a year before she had suffered from an abscess in the right groin, which healed up after being opened.

On admission the patient was drowsy and flushed, with a pulse of 96 and subnormal temperature. She was vomiting fæcal-smelling liquid. Her abdomen was much distended, and visible peristalsis was present. Nothing could be felt per rectum. There was a scar in the right groin, with a soft indefinite swelling under it, which was not particularly tender and did not give one the impression of being a hernia.

The diagnosis was intestinal obstruction, probably due to growth. The abdomen having been opened in the middle line, the small intestine was found to be distended, and the cæcum and colon collapsed. A coil of distended ileum was traced down to the neighbourhood of the right femoral canal, close to which it was found to be twisted on itself and to be the site of obstruction. The extremity of the coil protruded into the femoral canal, where it was strangulated in part of its circumference. A second incision was made over the femoral ring and the sac of a hernia opened. The strangulated coil was freed and returned to the abdomen, where it was untwisted and wrapped in gauze. The hernial sac also contained a densely adherent appendix vermiformis, which on being removed was found to have its lumen obliterated. In all probability the history of "bubo" was to be explained by the occurrence of an appendicular abscess in the sac of the hernia. After radical cure of the hernia, on returning to the abdomen it was found that a patch of gangrene was present where the bowel had been caught by the femoral ring. This patch was inverted, and, the rest of the intestine being in good condition, the wounds were closed.

This patient also made a satisfactory recovery, save that after the stitches had been removed on the tenth day she extruded her intestines through the wound during a fit of coughing. The extruded coils were at once cleansed and returned and the wound re-sutured, and she appeared to be little the worse for the accident.

Remarks.—These two cases are examples of the combination of volvulus with strangulated hernia, to which attention has been called in recent years by several writers, notably Knaggs,[1] Dobson,[2] and Miller.[3] They form a very marked contrast in the severity of the symptoms which may be met with in cases of this kind, where conditions exist which, though anatomically alike, differ both in degree and in mode of production.

In the first case it is, I think, clear from the history that the volvulus was the primary trouble, and that the strangulation of the hernia was produced by the vomiting and by the swelling of the affected intestine consequent on this. The amount of intestine involved being very large, the mesenteric blood-vessels were immediately occluded by the twist, with the result that in little more than 12 hours after the onset of symptoms the intestine was reduced to a condition in which complete excision became necessary to save the patient's life.

In the second case, on the other hand, there can be little doubt that the pinching of part of the circumference of a loop of ileum in the femoral ring was the primary trouble. The strangulation not being very tight the vitality of the bowel was not immediately endangered, and probably owing to peristaltic movements and the fixation of the bowel at this point the volvulus occurred secondarily. As only quite a small loop was involved the blood-supply was not entirely cut off, but complete obstruction of the bowel was produced by the pressing together of the limbs of the loop at the point where the twist took place. The result was that after eight days' obstruction the condition of the second patient was better than that of the first at the end of 12 hours, and a simple operation was sufficient to remedy the trouble.

In neither case was a correct diagnosis made before operation. In the second case probably this was excusable, but in looking back on the first case one feels that the gravity of the patient's condition only 12 hours after the beginning of his illness ought to have suggested that behind the obviously strangulated hernia some further and more severe cause of trouble might be in existence.

With regard to the successful issue after so extensive a removal of intestine, I think one may attribute it in the first instance to the continuous intravenous infusion of saline throughout the operation, which was kindly carried out for me by colleagues at the hospital; and, in the second place, to the use of that most valuable device, described by Barker, of using the whole length of the intestine about to be removed as a syphon, whereby large quantities of septic fluid can be drained off from the obstructed bowels.

In the excision of inflamed or gangrenous intestine it appears to me that one of the most important points, and one to which sufficient attention is not given in text-books, is the treatment of the mesentery. This structure, in all cases of which I have personal experience, is enormously swollen and œdematous and its vessels are engorged with blood, with the result that severe hæmorrhage is apt to occur when the clamps are removed after it has been divided. Such loss of blood, in addition to the already grave shock associated with these operations, is, I believe, sufficient sometimes to turn the balance against recovery.

To avoid this hæmorrhage as far as possible the mesentery should, as recommended by Barker, be first folded on itself and clamped in its whole length, parallel to the long axis of the intestine to be removed, with long powerful clamps (pylorectomy clamps answer admirably). The bowel is then cut away from the mesentery, and while the divided lower end of the part to be removed is syphoning off its contents, the whole mesentery is ligatured off, distal to the clamps, by interlocking sutures, passed through both leaves and back again with a large straight needle carrying stout linen thread. In order to interlock the sutures the second must be passed before the first is tied, the third before the second is tied, and so on to the end.

Even after carefully ligaturing off the whole margin in this way bleeding may still be found to occur from a few points after removal of the clamps, owing either to the failure of the ligatures to sufficiently compress the large vessels in the swollen mass of tissue or to some of them having cut through portions of it. These points can, however, easily be tied separately.

The ordinary method of a simple running or blanket suture along the divided margin of the mesentery is useless in such cases, and if depended on will lead to severe loss of blood the moment the clamps are removed.

The interesting question as to how far nutrition suffers in persons who have lost a large portion of their small intestines is answered, in the case of my patient, by a letter received from him in January last—i.e., 1 year and 10 months after the operation. He states that his health and appetite are good, and that it makes no difference to him what kind of food he eats; that his bowels act regularly two or three times a day; and that he regularly does light work.

Except, therefore, for some looseness of the bowels this patient does not appear to be appreciably the worse for the removal of what in all probability amounted to more than half the length of his ileum.

Bath.

[1] Annals of Surgery, 1900; THE LANCET, June 16th, 1900 (p. 1726), and March 6th, 1909 (p. 676).
[2] THE LANCET, March 6th, 1909 (p. 679).
[3] Annals of Surgery, 1911.

A VAGINAL PESSARY RETAINED FOR TWENTY-NINE YEARS.

PERFORATION OF THE BLADDER AND FIXATION OF THE INSTRUMENT BY A LARGE PHOSPHATIC VESICAL CALCULUS; LITHOTRIPSY; RECOVERY.

BY A. C. BUTLER-SMYTHE, F.R.C.S. EDIN.,

SURGEON TO THE SAMARITAN FREE HOSPITAL FOR WOMEN, MARYLEBONE-ROAD, LONDON, AND TO THE GROSVENOR HOSPITAL FOR WOMEN AND CHILDREN, WESTMINSTER.

THE following case is of so uncommon a character that the notes of it will, I feel sure, be interesting to readers of THE LANCET.

The patient, a decrepit and emaciated old woman, aged 58, came under the notice of my colleague, Dr. J. A. Willett, in the out-patient department of the Samaritan Free Hospital for Women on Dec. 27th, 1911. She complained of the dribbling away of urine and of a slimy blood-stained discharge from the front passage, which she said had been going on for three weeks. On seeing that the patient had some sort of a pessary tightly fixed in the vagina Dr. Willett admitted her under my care. The following history was with difficulty elicited owing to the woman's exhausted condition. She had married at 25 years of age, and her only child had been born three years later, the labour being a bad one. The child, a girl, lived a few months. During the next few years the patient had four miscarriages at the third month or thereabouts. Some years later the womb dropped, and 29 years ago she went to a hospital and had a support inserted into the front passage. She had worn the same instrument ever since. About 14 years ago she had had it seen to, but the medical man did not remove it. She had used a Higginson's syringe regularly in order to keep the instrument clean. About two and a half years ago she had noticed that the urine was dribbling away, and that there was a blood-stained discharge from the front passage. These troubles continued for a time and then ceased. She kept on with her work until three weeks previously, when the dribbling and discharge came on again and she sought advice. Visual examination showed the vulva, the perineum, and the sacral region to be excoriated from contact with urine and discharge. Immoveably fixed in the vagina, and protruding from its orifice was seen a portion of a pessary encrusted with phosphatic deposit. The vaginal canal was so contracted that thorough examination by finger was impossible without the aid of an anæsthetic, and manipulation of the pessary failed to produce any appreciable movement of the impacted instrument.

On Jan. 3rd, 1912, an anæsthetic was administered by Dr. R. E. V. Hale, and assisted by the resident medical officer, Mr. D. W. Roy, I proceeded to dilate the vagina and remove the pessary. The vaginal tissues had overgrown the embedded sides of the instrument, and the granulations had to be dissected away. No amount of dragging on the pessary served to loosen it or draw it down; in fact, it seemed to be immoveably fixed in the upper part of the vagina, where a mass of granulations and phosphatic deposit could be made out, with a bar or limb of the instrument firmly fixed at that point. A sound was then introduced per urethram and a large calculus was detected filling the cavity of a contracted bladder. On pushing up the pessary, with the sound in the bladder, it was felt that the instrument had perforated that organ and was connected with, and probably embedded in, the calculus. It was obvious that with such a contracted bladder, no enlarging of the fistula or incising of the bladder per vaginam would allow of the extraction of such a large calculus, and the only method that could with safety be adopted was lithotripsy. A strong forceps was therefore passed alongside the limb of the pessary into the bladder and the lower portion of the stone broken up. The instrument then became loose and was extracted, free bleeding following its removal. The remaining portion of the calculus was then crushed and removed piecemeal by forceps and scoop and the débris washed out. On introducing the examining finger through the fistulous opening into the bladder it was felt that the walls were encrusted with thick phosphatic deposit which on being broken down left a granulating surface which bled profusely. The bladder was washed out again and again with hot boric solution without any effect on the hæmorrhage, but when a hot injection of hazeline was employed the bleeding promptly ceased. The vagina was then douched with iodine (℥ii. to 1 pint), and lightly plugged with iodoform gauze, and the patient removed to bed. The severity of the operative measures, which extended over an hour, must have been a great strain on the patient, and her condition at the close was not all that could be desired. However, she rallied well, and on the following morning, much to my surprise, was in a very fair condition and comparatively free from shock. With the exception of occasional hæmaturia and rises of temperature she made an excellent recovery from the operation. Later on I hope to repair the vesico-vaginal fistula.

The instrument removed was what is called Greenhalgh's bendable pessary. It is made of tough copper wire covered with rubber, and its ends are joined by soft rubber tubing. (In my opinion, it is one of the most atrocious instruments ever invented for the torture of womankind.) One limb of the pessary had perforated the anterior vaginal fornix on the left side of, and in front of, the cervix uteri, and had penetrated the bladder, the opening into that organ being large enough to admit a finger. The anterior vaginal fornix was also separately perforated, on the right side, but the pessary had not passed through the walls of the bladder. The calculus was composed of phosphates. It completely filled the bladder and was about the size of a small Tangerine orange. For how long the calculus had been in the process of formation must remain a matter of conjecture, but its commencement probably dated from two and a half years ago when the dribbling of urine and bloody discharge were first noticed by the patient. Presuming that the penetration of the limb of the pessary into the bladder occurred two and a half years ago, a curious feature in this case is the fact that the opening in that organ should have become blocked up and rendered almost watertight for such a length of time by the deposit of phosphates around the end of the pessary within the bladder, and the granulations and concretions on the vaginal surface. The caked condition of the interior of the bladder and its contracted state seemed to point to the fact that for some time dilatation and contraction of that organ must have been incomplete. Whatever happened to cause the unblocking of the fistula, and the recurrence of the dribbling of urine can only be surmised. Possibly, in sitting down, some unusual pressure was put on the protruding end of the pessary, pushing it upwards and thus partly dislodging the phosphatic deposits in the vaginal fornix and in the bladder. It is to be presumed that the individual who inserted the pessary had placed it in its correct position—that is to say, with its posterior end behind the neck of the uterus. Owing, however, to the rotting and parting of the rubber tubing the instrument had become displaced, its ends being carried forward in front of the cervix uteri, and these pressing upon the fornix eventually resulted in ulceration and perforation of the vaginal wall and of the bladder.

The pessary, together with the phosphatic débris of which the calculus was composed, are now in the museum of the Royal College of Surgeons of England.

Brook-street, W.

TWO CASES OF PNEUMONIA TREATED WITH PNEUMOCOCCUS VACCINE.

BY GRENVILLE P. JONES, M.R.C.S. ENG., L.R.C.P. LOND.

THE following notes may prove of some interest owing to the fact that the cases responded so readily to the injection of pneumococcus vaccine.

CASE 1.—The patient, a female child, aged 12, was seized with a severe rigor on Oct. 3rd, 1911, lasting for about half an hour. Previous to this she had suffered from a bad cold for the last ten days. On seeing the child for the first time on Oct. 4th her condition was as follows. Face flushed; respirations 30, short and catchy in character. Complained of pain in left side, and troublesome cough. Temperature 102° F. Physical examination showed impaired movement over the whole of the left side of the chest, together with increased vocal vibrations and moist râles. Just below the angle of the scapula was a small area of bronchial breathing, around which were some fine crepitations. The right side of the chest showed nothing abnormal. On the 6th the temperature was 103·6°, and the area of bronchial breathing had increased in size. On the 8th the temperature was 102°,

but the general condition of the patient had become much worse and the breathing was more laboured. The physical signs on the left side were unchanged, while on the right base the air entry was diminished and a small area of bronchial breathing was found just below the angle of the scapula. The child's condition remained much the same during the next few days. On the 13th the patient seemed very much worse, and at 11 P.M. 1 c.c. of pneumococcus vaccine (Parke, Davis, and Co.) was injected. On the 14th, at 8 A.M., all the acute symptoms had disappeared and the breathing was quiet and regular, the temperature having dropped to 98·6°. The patient continued to improve during the next few days. On the 20th the temperature rose to 100° and remained at this level for some days, but the general health of the patient continued to improve. On Nov. 6th an exploratory needle was inserted into the left side and pus was discovered. On the 7th I excised a portion of the sixth rib in the post-axillary line and let out about 6 oz. of very thick but non-offensive pus, the anæsthetic being administered by my partner, Mr. W. R. L. Drawbridge. From this date the patient made an uninterrupted recovery.

CASE 2.—The patient, a man aged 45, was seized on Jan. 8th, 1912, with a rigor and pain in the right side. When I first saw him on the 10th he appeared to be acutely ill. The face was cyanosed; there was a troublesome cough, with a quantity of rusty sputum; and sharp pain in the right side was complained of. The temperature was 101° F. The physical signs showed a diminution of air entry into the right lung, the percussion note being dull at the base, with a large area of bronchial breathing over the right base behind. At 11 P.M. on the same evening the patient's condition became very critical; the respirations became more laboured and there were increased cyanosis and a failing pulse. Pneumococcus vaccine (1 c.c.) was then injected. On the 11th, at 5 A.M., the patient was much improved; the respirations were quieter and easy, there was less cyanosis, the pulse was stronger, and the temperature was normal. The patient continued to improve daily.

From a careful observation of these two cases I cannot help thinking that the pneumococcus vaccine was largely instrumental in bring about a favourable result.

Ellesmere, Salop.

LITERARY INTELLIGENCE.—Messrs. Henry Frowde and Hodder and Stoughton announce for early publication in a very long list of works the following:—1. A new revised fifth edition of Cunningham's well-known "Manual of Anatomy," Vol. I., edited by Professor Arthur Robinson, professor of anatomy at the University of Edinburgh. Cunningham's work is so well known that there is no intention on the part of the professor who has revised it to alter it in any way except in accordance with the international terminology and where it has appeared that new colour illustrations are desirable or the method of dissection has to some extent been altered to suit surgical needs. In these parts of the work a very thorough revision has been made, and it is hoped that the work will remain a worthy memorial of its author. 2. A large "Practitioners' Encyclopædia," by many authors, comprising medicine in all its branches. Nearly 1000 pages. In one volume. Edited by J Keogh Murphy, F.R.C.S. 3. A third volume of Thomson and Miles's "Surgery," dealing with "Operative Surgery." Pp. 500. With very numerous illustrations. This is in the press. It will be as small and compact as possible, but of very wide scope and very fully illustrated. 4. "A Text-book of Nursing, both Surgical and Medical," by E. W. Hey Groves and J. W. Fortescue-Brickdale, comprising anatomy and physiology as well as the methods of surgical and medical nursing, and designed to be complete in itself for nurses. Royal 8vo, pp. 388. 205 figures in the text. Companion to Despard's "Text-book of Massage." 5. "Surgery of the Rectum for Practitioners." By Sir F. C. Wallis. With about 130 illustrations. 6. "Gonococcal Infection." By Major C. E. Pollock, R.A.M.C., and Major Harrison. Pp. 222. 7. "Surgery of the Skull and Brain." A large monograph by L. B. Rawling, F.R.C.S. Pp. 252, 96 figures. 8. "Salvarsan in Syphilis and Allied Diseases." By J. E. R. McDonagh, F.R.C.S. About pp. 175. 9. "Kidney Diseases." By W. P. Herringham. A large practical work.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION, WITH SECTIONS OF SURGERY AND ANÆSTHETICS.

Exophthalmic Goitre.

A JOINT meeting of these sections was held on Feb. 27th, Dr. FREDERICK TAYLOR, the President of the Medical Section, being in the chair.

The discussion on Dr. T. P. Dunhill's paper entitled, "Partial Thyroidectomy under Local Anæsthesia, with Special Reference to Exophthalmic Goitre," which is published in full in THE LANCET of Feb. 17th, p. 422, was renewed.

Dr. HECTOR MACKENZIE said that he proposed first to make a few observations on the paper itself, next to say something about his own experience of the disease and its treatment, and finally, to attempt to arrive at a right conclusion as to what kind of treatment is best and safest. Dr. Dunhill had said that he had operated upon 230 cases of exophthalmic goitre with only four deaths, a result as remarkable as it was gratifying from the surgical point of view. He wished Dr. Dunhill had entered into more detail about his cases. Dr. Dunhill mentioned four types of the disease, but he did not tell them how many of his cases belonged to each class, so that he (Dr. Mackenzie) could form no idea as to how many of the 230 cases were acceptable as genuine examples of exophthalmic goitre. This made it difficult to judge his results. Dr. Dunhill said that in cases of the first class, with local anæsthesia and expert operating, the danger was *nil*, but he had made little use of general anæsthesia, and, therefore, his experience did not help much in deciding the comparative risks attending general and local anæsthesia. Sir Victor Horsley had used general anæsthesia, and had had only one death. His own experience had taught him that roughly about 25 per cent. of the cases make a complete recovery, under general medical treatment another 25 per cent. recover, but bear signs of their former illness, about 25 per cent. live on as chronic invalids, and 25 per cent. died from the disease. At St. Thomas's Hospital until 1908 few cases had been operated upon; since then the cases so treated numbered 19. Six had died, 4 had improved markedly, 4 showed some improvement, 3 were unchanged, 2 relapsed and were readmitted. Two other cases were not followed. Of the 6 fatal cases, 2 died shortly after the operation, 1 two days after, 1 four days after, 1 eight days after, and 1 a year after, following operation for adenoma. Ligation of the vessels had been performed in some, and thyroidectomy in others. During the last year 7 or 8 had been operated upon; 1 had died, the others expressed themselves as better, none were cured. Where Dr. Dunhill's paper failed to convince was that the cases had not been followed long enough, and it was impossible to say if they would relapse again. His own belief was that there was a certain type of case in which it was dangerous to operate, whether under local or general anæsthesia. These were examples of what is called lymphatism. He thought operation should never be employed as a last resource. He had for a long time been feeling his way towards the adoption of operative treatment, but his path had been beset with obstacles. There had been a relatively large proportion of deaths, and the results in those who had survived had been disappointing. Were it not for the risk to life from thyroidectomy he would not hesitate to recommend it as the most rational and practical method of treatment. There was a good prospect of recovery under medical treatment in the milder forms of the disease, and there did not seem to be so much better prospect after operation as to warrant incurring the risk. In acute and severe cases he did not consider the operation justifiable.

Dr. ALBERT KOCHER (Berne) read a paper on the Surgical Treatment of Graves's Disease. He said:—

Mr. President and Gentlemen,—It was with great pleasure that I accepted the very kind invitation of the secretary of your society to take part in to-night's debate on Exophthalmic Goitre. There are but few diseases on which more

has been written in medical papers than Graves's disease. I am pleased to say that there is to-day nearly unanimity as to the pathogenesis of the disease being a functional trouble of the thyroid gland. The very different features, degrees, and course of the malady have, however, made it difficult up to the present to fix the exact functional change in the gland. Some pioneers, of whom I will only mention Sir Victor Horsley, Moebius, and Rehn, have, according to their own observations on different lines, described the disease as dysthyreosis or hyperthyreosis. The latter view, however, has gained ground very much by the results of surgical treatment, and my father, Theodor Kocher, who has been operating for 30 years on the thyroid gland in Graves's disease, is the main advocate of the theory of hyperthyroidism, basing his opinion on his extensive operative experience, of which he spoke at the meeting of the British Medical Association in 1910. The operations for Graves's disease in the surgical clinic at Berne up to date amount to 865, performed on 669 patients. With my father's kind permission I will speak of the whole of these cases, and not merely of my own, as we have observed and operated together on the great majority of these cases. As already mentioned by some of those who have spoken in the debate, it is difficult to class all the cases under one head. Allow me, therefore, to tell you in a few words how the different features of the disease have to be explained according to our present knowledge. (A) First, the different kinds of Graves's disease according to the condition of the thyroid gland itself (the following views are based on histological and chemical investigations on 200 glands of Graves's disease which will be published shortly in *Virchow's Archiv*). 1. The change in the thyroid gland in Graves's disease consists in the more rapid and more abundant absorption of the material stored in the gland follicles. There is a considerable difference in the quantity and quality of the stored material present in the gland at the time of the outbreak of the disease. 2. There is a marked hypertrophy of the epithelium. Both these changes are connected with a hypervascularisation of the gland. 3. If the disease is progressive all the stored-up material is sooner or later absorbed, according to its quantity and the rapidity of progress, and under further progression there is no more storing of material in the gland follicles, but the proliferation of the epithelium is still progressive all through the gland, and degenerative changes of the epithelium can take place together with formation and proliferation of lymphatic tissue. (B) The different kind of Graves's disease as to etiology. In the outbreak of the disease we distinguish neurogenic causes which act through the vascular nerves, and toxic causes of chemical and infectious nature, acting through the blood. They can be acute or chronic, and they can also be combined.

I will not take up your time any longer with this complicated matter; you may judge from these few remarks that a large, if not *the* largest, part of the different features of the disease lies in the thyroid gland itself. I wish, however, to draw your attention to one more point. There are a great many cases, especially combined with nodular goitre, which present a few symptoms of Graves's disease, and only occasionally (especially after iodine treatment) show exacerbation or pronounced hyperthyreosis. Since surgical treatment of the disease has become more common a great many surgeons operate, and all *these cases* are apt to be registered as Graves's disease cured by operation. This is not quite right; we should always make the following distinction. (1) Cases with symptoms of hyperthyroidism presenting only occasionally pronounced hyperthyreosis, which, however, does not last and is not progressive, being usually the consequence of unlimited iodine treatment; (2) cases of steadily progressive, and (3) of periodically progressive Graves's disease. The first also come from sudden or very rapid and abundant absorption of the thyroid secretion stored in the gland follicles (thyroid-diarrhœa, as my father calls it), but when the cause of the outbreak has passed by the gland does not undergo further change—the disease is not progressive. In the cases of the second and third type this takes place, and after a certain time of duration degenerative changes may come on, not only in the thyroid gland itself, but also in other glands with internal secretion such as the adrenals, pancreas, thymus, spleen, liver, ovaries. In other organs also permanent changes are established, such as fatty degeneration of the muscles, especially of the heart muscle, also of the kidneys and of the liver. We can, therefore, before looking upon the results, presume that in progressive Graves's disease it is *most important at what period* of the disease we operate, whilst in simple hyperthyroidism we do not risk so much in postponing operation.

Amongst our list of 669 cases, 130 were of simple hyperthyroidism, mostly combined with nodular goitre of nearly every size, some presenting no extraordinary difficulty during the operation; some, however, partly or totally intrathoracic, and being combined with hyperthyreosis, very vascular and technically very difficult operations. These cases have *all been entirely cured* of their symptoms of hyperthyreosis after the operation, with the exception of two, who died from post-operative pneumonia. In these cases we remove the cause of the disease with the goitre, and, more than that, we remove with the goitre the reservoir of the poison. Histological and chemical researches have shown that the goitre removed contains a large quantity of rather liquid colloid, in which an unusual amount of iodine is present. These cases are all suitable for operation if they are not complicated with other serious pathological changes in the lungs, heart, or kidneys. But it is advisable also to prepare these patients for operation by a short course of treatment, keeping away every toxic and nervous influence, because it is to be borne in mind for the operation itself that we have to deal with very sensitive people who are poisoned by toxins.

539 cases have been operated upon for steadily or periodically progressive Graves's disease. We are collecting the ultimate results, but with such a number they cannot be obtained as quickly as we should wish. We can at present give the ultimate results of 360 patients operated upon for progressive Graves's disease. 160 of these, 45 per cent., are radically cured, so that there is at the present time not one symptom of the disease left, and the function of the rest of the thyroid gland is normal. These cures last up to 25 years after the operation. The patients are leading a normal life, some working hard. Several lady patients have given birth to one or more healthy children since. Not all of these cases have been early ones; more than half were very severe and of long duration. The latter have been cured only after some time, during which several (up to 5) operations have been performed on the same patient. The early cases have been cured a short time after *one* operation. 149 cases, 41 per cent., show at the present moment, months or years after the operation, a few symptoms of the disease, but have been greatly benefited by the operation, inasmuch as patients of the working class, for instance, can earn their living without any difficulty. (*a*) Amongst these 149 cases there is first of all a considerable number in which a more extensive—that is to say, a second operation—would give complete recovery. Most of these patients, however, feel so well that they are unwilling to submit to any further operation. (*b*) In a small number of cases the only symptom still present is the exophthalmos, but they are not cases in which the bulb was most protruded before the operation, but cases in which the exophthalmos underwent no more change. They were sometimes combined with paresis of the bulbar muscles. I must mention here that among the 160 cases radically cured, a very large number have had an extremely marked degree of exophthalmos; in one instance the bulb came quite out one day and had to be replaced. At the present time the eyes are normal. (*c*) A further group of cases show symptoms which had been present before the operation and were the result of the toxic influence on some of the organs, due to the severity and long duration of the disease, such as chronic myocarditis, chronic nephritis, and some degenerative trouble in other glands, such as diabetes, but all symptoms of Graves's disease have disappeared. (*d*) Some patients still show symptoms of functional trouble of the thyroid gland. There is no more progressive disease, but the part of the gland left does not seem able to adapt itself to the various demands. We sometimes find symptoms of hyperthyroidism and sometimes of hypothyreosis. The gland seems to be in a labile state. The cause of this is that the progressive changes in the gland, during the Graves's disease, had gone so far that it had lost its power of storing material in the gland follicles, and the part of the gland left after operation was not able to regain this power.

However, all these 149 patients are cured of the great majority of the symptoms of Graves's disease and are able to lead a normal life. If we add this 41 per cent. to the 45 per cent. of complete cures, we can say that in 86 per cent.

the ultimate result of operative treatment has been satisfactory. In 26 cases, 8 per cent., the ultimate result cannot be called a satisfactory one. (*a*) Amongst these we find cases in which the operative treatment has not been carried on so far as to obtain a satisfactory result. Some of these patients object to further operation, not having been benefited by the first one. In some, however, the disease has gone so far, and also the shock of the first operation, sometimes only ligation of one or two arteries, has been such that a more extensive operation seems too risky, and is therefore abandoned. (*b*) The remaining cases of this group are those who have had recurrence of the disease. There are about 5 per cent. in all. In none, however, has the second attack been as severe as in the first instance—that is, before the operation. Amongst the cases registered as cured there is a number in which a second operation has cured the recurrent disease. Most of those also who show symptoms of recurrence might in a similar way be benefited by a further operation. But we have to bear in mind that partial removal (resection) of the remaining lobe of the gland in a recurrent case is extremely difficult, and therefore dangerous. It is true that in a few cases an excellent result has been obtained with it, but naturally the small part of the gland left has more difficulty in resuming its normal function. 22 patients, 6 per cent., have died since from other diseases. Only in a few instances does the former Graves's disease seem to be connected with the ultimate death. Five patients died very suddenly from what is called heartstroke, after a fright or over-exertion, or in the course of an otherwise not dangerous (mostly infectious) disease. In all these cases Graves's disease had been of very long standing, and had caused degenerative symptoms; however, after the operation the pure symptoms of Graves had disappeared. One case died from diabetes. Whether this is in connexion with the degenerative influence of the severe Graves's disease on the pancreas remains doubtful.

This leads to the question *which cases are suitable for operation?* If we could operate in all cases within a short time, say half a year after the outbreak of the disease, and the sooner the more acute the outbreak is, I dare say *all* might be *cured* by operation. A short rest with avoidance of all the things likely to cause progression of the disease, such as nervous strain and toxic influences, combined with more or less vegetarian diet and internal phosphorus preparations, is the proper preparation of these cases for operation. During this time a careful examination of the patient should be made, and this is *the chief point* to decide—whether an operation should be done or not in severe cases and of such long duration of the disease. Special attention must be paid to the heart, kidneys, liver, adrenals, pancreas, lymphatic organs (thymus, spleen, lymph glands), and to the blood. A constantly irregular pulse, a lasting notable amount of albuminuria, very frequent fatty stools, distinct and constant, not only alimentary, glycosuria, low blood pressure, marked status lymphaticus (especially the one without the otherwise characteristic lymphocytosis of the blood), a very high lymphocytosis of the blood, combined with very marked leucopenia, very slow coagulation of the blood—are facts that *forbid* an operation unless they can be brought to disappear under proper treatment during the time of preparation for the operation.

The operation itself consists either in the reduction of functional gland tissue by partial thyroidectomy or in the reduction of arterial supply by ligation of arteries. In early cases this will bring cure. In slightly enlarged, but very vascular glands, ligation of two or three arteries should be done; in larger glands hemi-thyroidectomy may be preferable. But one cannot fix any scheme, the most suitable operation for each case has to be decided upon individually. In severe cases of long duration the combined—that is to say, the consecutive use—of both operations is the method of choice. The ligation of the superior artery is best done from a small collar incision across the upper part of the lateral lobe, between omohyoid and sternocleido-mastoid, the upper pole of the gland is set free and the artery tied or cut between two ligatures. The effect seems to be better if ligation of the thyroidal veins is omitted. In partial thyroidectomy the larger lobe with the middle part and pyramidal process should be removed. This is done with Kocher's symmetrical collar incision across the middle of both lobes. After dividing the straight muscles above the entrance of the nerve branches, the gland is carefully detached under exact hæmostasis of all the numerous accessory veins passing from the capsule to the gland. It is an advantage if the superior and inferior artery can be tied soon. Special care is to be taken at the back, where the recurrent laryngeal nerve and the upper parathyroid gland are adjacent. The best plan is to leave a sheath of gland tissue behind. Next with regard to ligation of the inferior artery. The ligation of the inferior artery alone is as a rule a very difficult procedure, as it can only be done on the main branch, when the lateral lobe of the thyroid gland is lifted up. We do not therefore consider it the best method to be chosen, although it is the one lately chosen by most French surgeons. It has exceptionally to be done in cases where one lobe has been removed and the upper artery of the other tied. It is the same with the *partial removal or resection of the second lobe.* It is only exceptionally necessary and on account of the difficulty of hæmostasis not a safe procedure. The removal of one lobe and the partial removal of the other *in one operation* is a procedure which should not be undertaken. In early cases it is not necessary, in severe cases it is frequently the cause of death. We are sure that most of the cases lost after this operation could have been saved by consecutive operations performed at the necessary intervals.

All operation *can* and *should* be done under local anæsthesia. In early cases, where no symptoms of degeneration in the organs are present, general anæsthesia, ether and oxygen, can be given, but it has always two disadvantages: the recurrent laryngeal nerve cannot be spared with certainty, and the sickness after the operation, considering the slow coagulation of the blood, makes the healing slow, and has a bad general influence. The local anæsthesia is done by injections of ½ and 1 per cent. novocain solution with 2 drops of 1 per cent. adrenalin solution for 10 grammes of novocain. This is injected under the skin at the place of the incision, in the muscles where they are to be cut, and in the periglandular tissue, especially at the upper pole. It is important to calm the patient before the operation, not so much with drugs such as veronal, medinal, codein, and valerian, but more by mental influence. I can assure you that during the above mentioned preparatory rest cure in the house, which lasts from two to several weeks, we nearly always influence the patient so far that he is anxious to have the operation and fears it no more. After most operations, even if not the slightest irregularity, not to speak of complication, takes place, when no antiseptics and no general anæsthetic have been employed, the patient shows a very severe reaction; the more so, the more severe the case is. Rise of temperature and pulse-rate, irregularity of pulse, albuminuria, glycosuria, restlessness, sweating, and oppression are quite usual, and sometimes very alarming. We find this reaction sometimes even more severe after ligation than after partial removal. If antiseptics have been largely used, or if the wound has had to be packed with gauze, or general anæsthesia has been given, this reaction is much more severe. We have seen four times, in cases where we have had to give general anæsthesia because of the lack of self-control of the patient, this reaction go on for a period up to 24 hours, and ending in coma and death; and here the necropsy revealed fatty degeneration of the heart muscle, kidneys, and liver, with circumscribed necrosis, such as is found experimentally in the liver after chloroform death. Besides cases of death following the operation under general anæsthesia we lost 5 patients from pneumonia, 3 from nephritis (extensive fatty degeneration), 2 from embolism, and 4 who died, with the above-mentioned symptoms, very suddenly, and showed marked status lymphaticus, together with fatty degeneration at the necropsy. If you consider the cause of death in all these cases and compare with it what I said of the special attention that must be paid to the condition of the heart, liver, kidneys, adrenals, lymphatic organs, and blood, before operating, you may conclude that the majority of deaths could have been avoided. If we had omitted general anæsthetics in the four cases, if we had refused to operate on the three patients who had distinct signs of kidney degeneration before, and on the four patients who showed status lymphaticus in very marked degree, all these would have been spared, and our statistics showing 2·6 per cent. mortality from 865 operations would be only a little over 1 per cent.

Mr. President and Gentlemen, we come to the conclusion that early diagnosis of Graves's disease is *the* important task

of a medical man. If this is established an early operation should be performed by an experienced surgeon. After the operation treatment with rest, proper food, good air, especially mountain air, avoiding any nervous or toxic influence, will bring on radical cure in a fairly short time. Thus we shall not only avoid recurrence of the disease, but the patient will be spared from the toxic influence on his heart, kidneys, and liver, of which he will die sooner or later. The thyroid gland will resume its normal function, whilst, if the disease is progressive, it may come to such a point that the gland is no longer able to do so. In severe cases and in those of long duration a careful examination, according to our modern knowledge of the disease, must be made. Cases with distinct symptoms of functional degeneration cannot be operated upon without risk. Only surgeons who have great experience in the surgery of the neck, who are able to make complete hæmostasis, and who can guarantee complete asepsis, should operate in Graves's disease. A difference should be made between cases of goitre with symptoms of Graves's only, and the progressive full disease. The results of operative treatment in the first should not be published as results of operation in Graves's disease, without adding that they were rather cases of hyperthyroidism grafted on ordinary goitre.

Dr. DUDLEY BUXTON said that an important question was raised as to the relative advantages of local analgesia and general anæsthesia. He thought that Dr. Dunhill's objections to general anæsthesia were based on inadequate evidence, as he had had very small experience of general anæsthesia in these cases. It was important to know how the method was carried out, whether properly or improperly, and the results when quantities of anæsthetic were used which were adequate without being excessive. Local analgesia was certainly valuable, but whether it had the advantages claimed for it had yet to be shown. The after-sleep of general anæsthesia, he considered, was in its favour. He had employed chloroform for many years and quite agreed that it was more toxic than ether, but would only do harm when employed as a poison and not as an anæsthetic. If merely used to produce anæsthesia without overloading, no danger of post-operative poisoning from chloroform need be feared. A danger from asphyxia existed, but he had overcome that by giving oxygen *pari passu* with the chloroform, which he always administered by the dosimetric method. Nervous excitement and fright might be controlled by producing sleep before anæsthesia by a mixture of morphia, atropine, and scopolamine. Though he had employed chloroform he was ready to believe that the open ether method or venous infusion of ether were useful methods. In the latter, however, there was a danger of collapse when the unnatural stimulation of the ether passed off.

After Mr. H. J. PATERSON and Mr. JAMES BERRY had exhibited cases of Graves's disease which had been operated upon, the discussion was adjourned until March 5th.

PATHOLOGICAL SECTION.

A New Method of Mounting Museum Specimens.—Neuro-fibromatosis.—Multiple Embolic Aneurysms of the Pulmonary Artery.—Salvarsan Fever.

A MEETING of this section was held on Feb. 25th, Mr. S. G. SHATTOCK being in the chair.

Reference was made from the chair to the great loss which the section had recently sustained by the death of Lord Lister. A resolution, proposed by Mr. SHATTOCK and seconded by Dr. W. BULLOCH, expressing sympathy for the relatives was passed unanimously by the members standing. Subsequently the Chairman gave a brief *résumé* of the pathological researches which had led up to the late Lord Lister's work, and pointed out that aseptic surgery could only have been attained through antiseptic surgery.

Professor J. M. BEATTIE and Dr. ARTHUR HALL (Sheffield) showed a series of Mounted Specimens from the Pathological Department of the University of Sheffield to illustrate a new and inexpensive solution for the mounting of museum specimens. Specimens were fixed in the ordinary solutions (Kaiserling, Jores, or Pick), transferred to fresh methylated spirit until the colour was well developed, then directly to Frost's solution: sodium fluoride, 80 grammes; chloral hydrate, 80 grammes; potassium acetate, 160 grammes; cane sugar (Tate's cube), 3500 c.c.; saturated thymol water, 8000 c.c. In this they were permanently preserved. The advantages claimed for this method were: (1) It cost only one-tenth the amount of the glycerine solution; (2) it preserved more life-like colours; (3) the colour was not affected by exposure to sunlight or to extremes of hot or cold weather; and (4) the tissues continued to retain their power of taking ordinary histological stains.

Professor BEATTIE and Dr. HALL also showed specimens of Diffuse Neuro-fibromatosis. The patient was a girl aged 17 years. She had been curiously childish in manner, irritable, but easily pacified. She could not sit up in bed, showed general weakness and wasting, and was completely blind. There was marked swelling of both discs with dilated veins. She was almost completely deaf. Paralysis of the left sixth and seventh nerves occurred, and some difficulty was experienced in swallowing. There was marked wasting of the muscles of the hands. Tumours were present on arms, legs, and neck, evidently situated on the nerve trunks. There was one slight cutaneous nodule on the right side of the neck. The tumours were painless and not tender on handling. During her stay in hospital she became completely deaf, lost control of the sphincters, and (?) lost her taste. At the necropsy large numbers of tumours, varying in size from a pin's head to an orange, were found situated upon (1) the cranial nerves inside the skull; (2) the spinal nerves inside the dura mater and between the dura and bone; and (3) the peripheral nerves, particularly those of the brachial and lumbar plexuses. In the latter positions the largest tumours were found—one in the right lumbar plexus being of the size of an orange and having undergone marked degenerative changes. At the base of the brain the tumours were so closely packed together as to make it difficult to say to which cranial nerve each belonged. They had caused marked distortion of the medulla and pons. The olfactory nerves appeared to be alone unaffected. In the cord the tumours seemed more evident about the cervical and lumbar swellings and were very numerous in the cauda equina. Besides the actual tumours there was widespread irregular thickening of many nerve trunks. Microscopically the tumours consisted of simple fibrous tissue.

Professor BEATTIE and Dr. HALL also showed specimens from a case of Multiple Embolic Aneurysms of the Pulmonary Arteries. The patient, a man, aged 21 years, had thrombosis of the left leg in February, 1911, which seemed to recover completely in March. Shortly afterwards he had a shivering attack and blood-spitting. From this time onwards to his death in September he was more or less laid up with recurrent attacks of hæmoptysis, daily pyrexia, and occasional slight rigors. There were no loss of flesh, slight cough, and no pain. The only physical signs of disease in the chest were a small area of impaired resonance with harsh and jerky expiration, and occasional rhonchi situated in front, just below the right clavicle, and a smaller area about the second left interchondral space where fine crepitations were heard. Ultimately he was suddenly seized with profuse hæmoptysis and died within half an hour. At the necropsy both lungs were found to contain aneurysms of the pulmonary arterial branches. The largest was in the right upper lobe, extending from the anterior surface deeply towards the root of the lung. It corresponded in position with the site of the physical signs beneath the right clavicle, and measured 5×6 cm. across. The cavity was largely filled with organised laminated thrombus, near the centre of which a cavity containing recent liquid blood persisted. At the upper and deepest part this aneurysm had eroded into a bronchiole causing the fatal hæmoptysis. There were three or four smaller in size, some in the right and others in the left lung. Each was more or less completely filled with laminated organised thrombus.

Mr. EDWARD C. HORT and Dr. W. J. PENFOLD communicated a paper on Salvarsan Fever. Salvarsan fever was the latest addition to a large group of injection fevers. Other well-known members of this group were water fever, salt fever, sugar fever, ferment fever, protein fever, tissue fever, &c. In all of these the fever after injection had been attributed to the action of different pyrogenetic substances. Salvarsan fever, however, although at first looked upon as salt fever, had recently been attributed to gross bacterial infection of the solutions demonstrable before their sterilisation and injection. This theory was first advanced by Wechselmann and was later endorsed by McIntosh, Fildes, and Dearden as a result of independent observation. The theory

was mainly based on the discovery of large numbers of organisms in the solutions injected and on the experience that if saline made with pure water was used fever no longer occurred. The evidence, therefore, at first sight appeared to be complete. On testing it, however, by control experiments Mr. Hort and Dr. Penfold found that they could not produce fever by the injection of large numbers of dead organisms grown on water or on saline. They also found that injection of heated water or saline containing hardly any organisms may give rise to high fever owing to the presence of a heat-stable, filter-passing substance of small molecule. This substance might be of bacterial origin, but they had no absolute proof that this was so. If this body were present in sterile solutions containing salvarsan, fever followed injection; if salvarsan were injected in pure saline, fever did not follow injection. They found that water immediately after collection from the receiver of the ordinary closed metal still might be sterile and yet strongly pyrogenetic, and that water injected immediately after distillation in glass produced marked fall of temperature. This was also true of solutions of salt and salvarsan in this water. They suggested that the ordinary closed metal still when cooling aspirated organisms from the air through the joint with the worm, and that these were destroyed when the apparatus was again heated. It was possible that extraction of degradation products of bacterial protein then occurred, which would explain the pyrogenetic properties of sterile water. This water if allowed to stand in clean closed vessels became increasingly pyrogenetic, and injection of salt, salvarsan, and many other substances in such water was always followed by fever, which never occurred if pure water were the solvent. This toxic water was practically bacteria free, containing 40 organisms per c.c. If pure water, or saline made with it, were deliberately exposed to infection for some days, and were injected immediately after autoclaving, little or no fever resulted. If, however, an interval of days were allowed to elapse after autoclaving, and if injections were then made after a second heating, both the water and saline exhibited pyrogenetic properties. This also might be due to extraction of degradation products of bacterial protein. Mr. Hort and Dr. Penfold concluded therefore: (1) That there was no evidence to show that salvarsan fever was necessarily due to the injection of micro-organisms or of unbroken bacterial protein; (2) that the presence in the solutions of a heat-stable filtrable substance, which might be a degradation product of bacterial protein, was an important factor in the production of salvarsan fever; (3) that demonstration of the sterility of any watery solution of salvarsan was no guarantee that this pyrogenetic substance was not present; (4) that if water for the solutions was collected from the metal closed still autoclaving might be a distinct disadvantage; (5) that the only certain method of preventing salvarsan fever was (*a*) to use for the solutions only water that had been freshly distilled in glass and to inject immediately, or (*b*) if storage was desired the water must have been at once collected direct into sterile vessels, which were then hermetically sealed and autoclaved. Water treated in this way would not acquire pyrogenetic properties even after standing many weeks. Autoclaving after infection of the water had occurred was useless and probably dangerous.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases.

A MEETING of this section was held on Feb. 23rd, Dr. G. A. SUTHERLAND, the President, being in the chair.

The following cases were shown:—

Dr. R. HUTCHISON: 1. Paralysis of the Muscles of the Neck (? Poliomyelitis) in a boy, aged 2½ years, who was admitted to the London Hospital on Oct. 28th, 1911. Ten days before admission he had had a feverish attack, and both ears discharged. Weakness of the neck had been noticed since. He was in hospital six weeks before that for pneumonia. On admission he was no more able to hold up his head than a newly born baby. Paralysis seemed to involve both sterno-mastoids, both trapezii, and retrocollic muscles, and was more marked on the left side. No other muscles were affected. Radiogram of the spine was negative. On Feb. 6th, 1912, there was imperfect reaction of degeneration in the trapezii and sterno-mastoids. The other muscles could not be satisfactorily tested. The paralysis is much less marked than when the patient first came under observation. 2. Hysterical Vomiting, Achylia, in a girl aged 10 years. About two years ago the patient's mother died suddenly, and vomiting set in immediately after this event, and continued in spite of treatment in two hospitals until she came under observation three months ago. She was then much emaciated (weight 1½ st.); the skin was dry, brown, and scaly. There was no other visceral disease. The bowels were somewhat loose. A test meal showed complete achylia. Under treatment by isolation, suggestion, and the use of hydrochloric acid and pepsin the vomiting had entirely ceased, but the nutrition had not much improved.

Dr. J. H. THURSFIELD: Green Teeth, subsequent to prolonged jaundice in the first weeks of life. The patient, a boy, had been jaundiced from birth, or possibly from the third day of life only, and during the first week of life he had passed very black stools, and had a purulent discharge from the navel. When seen at the age of 3 weeks the umbilicus was perfectly healthy; the liver and spleen were not enlarged, and the child, though small—6 lb. 5 oz.—seemed quite healthy. The jaundice was deep at this time and remained so for the next seven weeks, slowly disappearing. When it had gone he put on weight rapidly. He was not seen again until 9 months old, when he was brought for an attack of diarrhœa. Then the two lower central incisors were a vivid yellow tint, and have now become green. The tint varies considerably; it is occasionally quite bright, and at other times dull.

Dr. F. LANGMEAD: Anomalous Jaundice, with Enlargement of Liver and Spleen, with Bile-stained Teeth. Jaundice began between two and three weeks after birth, and persisted until the baby was 1 year and 3 months old. When first seen, when the child was 3 weeks old, the liver was definitely enlarged, and the spleen reached nearly to the umbilicus. The child's general condition was good. There was nothing to suggest syphilis. Grey powder was administered, and the liver and spleen subsided rapidly, and were not enlarged after about one month's treatment. The jaundice persisted and was accompanied by hæmorrhage from the bowel, the stomach, and beneath the skin. The first tooth erupted when the baby was 1 year old, and four were visible when the jaundice disappeared at 15 months. All were bright yellow in colour, and obviously pigmented by bile. Since then each tooth as it has erupted has proved to be jaundiced. The yellow colour began to change about three months ago, and now the colour has almost gone.

Dr. JAMES TAYLOR: Athetoid Movements in a girl, aged 5½ years. She was the seventh child; the first two died a few hours after birth; the third, fourth, fifth, and sixth are alive and well. The child was born at full term; she was born "feet first," and was black and blue at birth. She had never walked or even crept. At the age of 2 years the movements of the head, hands, and feet were noticed. Now she spoke badly (she had never spoken well), but her intelligence was fair. She had involuntary movements of the hands, also of the head; the legs were stiff. The reflexes were difficult to obtain on account of the rigidity, but the knee-jerks were present.

Dr. LEONARD GUTHRIE: Transposition of the Viscera in a girl aged 12 years. The heart was on the right side, the apex being in the sixth space 1 inch inside and below the right nipple. Hepatic dulness was absent on the right side, but could be made out on the left side from the level of the sixth rib downwards. The stomach resonance was well defined in the right hypochondriac region. The position of the colon was not ascertained.

Dr. J. A. TORRENS: Case of Unusual Cardiac Bruit in a girl aged 16 years. There was no history of rheumatism and no history of any cardiac disability at any time. She was a well-nourished and well-developed girl. There was no cyanosis or clubbing of the fingers. The heart was not enlarged to percussion, but the X rays showed a globular left ventricle of greater density than normal, suggesting some pure hypertrophy. There was a loud systolic murmur at the base, best heard over the aortic area, conducted up into the arteries of the neck, but audible over the entire thorax, back and front. The second sound was quite distinct, but there was no diastolic murmur.—The murmur was considered by some speakers to be due to a congenital lesion, and by others to an acquired aortic stenosis.

Dr. T. R. C. WHIPHAM: Arthritis of the Shoulder and Hip

(? Tuberculous) in a boy 14 years of age. When 3 years old he was held up by the arms, and after that his right shoulder "grew out" and the arm could not be raised above the horizontal level. Wasting of the shoulder muscles followed, but nothing further was noticed until nine months ago, when he started walking lame on the left leg. There was pain in the left hip and knee at first, but this had subsided, and the patient had never been prevented from doing his work as a house-boy. The radiogram showed absorption of the head of the humerus and displacement of the shaft under the tip of the coracoid process. The shoulder-joint was ankylosed. There was considerable wasting of the muscles around the hip-joint, the movements of which were very limited. The femur was shortened, due to absorption of the head of the bone. Von Pirquet's reaction was negative.—The case was considered as most probably one of tuberculous arthritis.

Dr. WHIPHAM: Proliferative Osteo-arthritis of the Hip in a youth. A year ago, when 17 years old, he began to experience pain in the left groin when walking. This was only present when the joint was exercised. He walked with a limp, and the left leg was ½ in. to ¾ in. shorter than its fellow. The muscles around the joint were wasted, and the trochanter was prominent. The movements of the joint were restricted, and creaking was present. The skiagram showed osteo-arthritic changes in the joint.—The case was considered by some to be of an infective nature, and the state of his teeth was commented upon as being a possible cause.

MEDICAL SOCIETY OF LONDON.

Exhibition of Pathological Specimens.

A MEETING of this society was held on Feb. 26th, Dr. J. MITCHELL BRUCE, the President, being in the chair.

The following pathological specimens were exhibited:—

Dr. FREDERICK LANGMEAD: Calcification of the Pericardium and Primary Carcinoma of the Liver in the same case.

Mr. C. M. PAGE: A large Obturator Hernia.

Dr. J. GRAHAM FORBES: (1) Spheroidal-celled Carcinoma of the Appendix in a boy of 10; (2) Tumours of the Cervical Sympathetic Ganglion; and (3) Fibro-myxoma of the Nasopharynx.

Dr. ALEXANDER PAINE and Dr. F. J. POYNTON: Experimental Appendicitis by general blood infection.

Dr. HERBERT FRENCH: (1) Melanotic Growth of the Liver; (2) Traumatic Aneurysm of the Heart; and (3) Malignant Disease of the Kidney, with continuous growth extending along the vena cava to the tricuspid valves.

Mr. HERBERT TILLEY: Larynx of a man, aged 72, whose right vocal cord was removed for epithelioma in September, 1896, and who died 13 years after from another growth on the left vocal cord.

Dr. C. E. LAKIN: (1) Infective Endocarditis in an infant of 7 weeks; (2) Infective Endocarditis in a case of congenital heart disease; (3) Malignant Disease of the Suprarenal Glands; and (4) Perinephric Tumour in a child of 4 months.

Dr. R. C. JEWESBURY: (1 and 2) Cysts of Spleen; (3) Separate Growths in Œsophagus and Stomach in the same case; and (4) Liver—for diagnosis.

Dr. J. P. HEDLEY: Specimen from Cæsarean Section.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Pyocolpos.—Classification in Gynæcology.

A MEETING of this society was held on Feb. 16th, Dr. A. W. W. LEA, the President, being in the chair.

Professor H. BRIGGS showed: 1. Microphotograph and specimen of a Small Raised Ulcer, an early epithelioma, on the cervix of the procident uterus of a woman aged 63. On the procident cervix cancer is rare. 2. Two Ovarian Tumours, adenomata, solid, fused so completely that they formed one continuous ovoid 12 by 6 inches. The fusion must have occurred early; its cause was not yet explained. Ascites; no primary growth elsewhere; patient well after eight months. 3. A chain of Fibroids in each horn of a bicornuate uterus; the total bulk of the tumours was large and reached the umbilical level during life; both ovaries were apoplectic. There was a blood cyst in the great omentum; one broad ligament fibroid seemed to carry the corresponding ovary on its surface, and might have been classed as ovarian in origin except for its relation to the ovarian ligament and its own structure.

The PRESIDENT mentioned a case of Pyocolpos occurring in a girl aged 14½ years. This formed an abnormal swelling, reaching two inches above the pubes. The hymen was imperforate; per rectum it was obvious that the vagina was much distended. As the girl had suppuration in Bartholin's gland drainage was postponed until this healed. When the vaginal incision was made 12 ounces of muco-purulent fluid were evacuated. Infection had no doubt arisen from the bartholinitis. Recovery was uneventful.

Dr. A. DONALD showed the specimen and microscopic section from a case of Hæmorrhage from the Ovary. The clinical history was as follows. Married, aged 31; one child, born in March, 1909. Menstruation regular and health good. In November, 1911, sudden and severe collapse, with abdominal rigidity. Two days later retention of urine. On examination a mass of the size of a Jaffa orange was felt behind the uterus, rather on the left side. This condition persisted, and on Jan. 19th the abdomen was opened. Mass of blood-clot in pelvis, continuous with clot in left ovary. Specimen showed ovary size of Tangerine orange containing blood-clot, and there was also a separate blood-clot. Dr. W. F. Shaw, who furnished the pathological report, found cells which he regarded as lutein cells, but no certain evidence of ovarian pregnancy.

Dr. W. E. FOTHERGILL (Manchester) read a paper on Classification in Gynæcology, giving an account from the historical point of view of the various classifications of the diseases of women which had been used. It was shown that the anatomical arrangement now almost universally employed came into use about 40 years ago, while the first attempt to introduce the use of main groups based on pathology was made by Berry Hart in 1893. Dr. Fothergill considered that the anatomical system, while doubtless the best that could be used before the pathology of the diseases of women had been investigated, was not suited to modern needs. It interfered with the proper teaching and with the scientific description of the subject, and should be replaced, both in text-books and in courses of lectures, by a natural classification whose main divisions should be based on pathological features. Six main groups were suggested for use in such a system, as it was considered that the 10 or 11 divisions used by some authors were too numerous to be remembered easily by students.

EDINBURGH OBSTETRICAL SOCIETY.

Eclampsia.—Treatment of Contraction of the Pelvic Outlet.

A MEETING of this society was held on Feb. 14th, Dr. J. HAIG FERGUSON, the President, being in the chair.

Sir J. HALLIDAY CROOM communicated a paper on the Incidence of Eclampsia in the Edinburgh Royal Maternity Hospital, producing the statistics for a period of 22 years—first, with regard to its increase; secondly, with regard to its severity; thirdly, with regard to the mortality; and, lastly and specially, with regard to its seasonal incidence. He showed by numerous tables that there was a marked increase, especially during the last 13 years, and pointed out that it occurred less frequently in the country than in the town, and deduced the fact that the cause of the increase in cities was probably the alteration in the dietary. He further showed that the death-rate was distinctly diminishing, but that the severity remained unaltered. He explained this by a clearer knowledge of toxæmia and the patients being sent in earlier, and therefore more amenable to treatment. He also attributed the decreased mortality to improved methods of treatment which he discussed. With regard to the seasonal incidence, he compared the tables taken from many parts of Germany and from New York with his own, and found there was such a diversity of opinion on the subject, and the difference in the actual and relative months' occurrence so slight, that he was disposed to discard the seasonal influence in the causation of eclampsia, and endeavoured to prove that it was not a

question of seasons but the exposure of toxæmic patients to sudden changes of temperature at any time of the year, and he supported his opinion with numerous tables.—Dr. D. BERRY HART said that eclampsia was one of the diseases the more one read about it the less one knew, but there were theories. It must be remembered that there was a great deal of metabolism going on, and there was, perhaps, some disturbed chemistry varying in degree; also an accumulation of the toxin in the system until it reached a certain pitch, and perhaps aggravated by a change in the temperature. A very recent idea was that the woman might have eclampsia produced by a sudden change of temperature. The theory that the patient had previously diseased organs was difficult to prove.—Dr. JAMES RITCHIE referred to the fact that it might occur in a single pregnancy and not in any other pregnancy seemed to show clearly that it was due to something associated with that particular pregnancy. It must be explained by something in the uterus itself. He put forward a suggestion that it might be a micro-organism occurring in association with that particular pregnancy.—Dr. W. FORDYCE alluded to the statistics of the Edinburgh Maternity Hospital quoted by Sir Halliday Croom. The number of cases had increased and the death-rate had fallen. But the Maternity Hospital was not such a popular institution in 1889 as it was now, consequently only the desperate cases would be sent. Most men were now alive to the fact that the successful treatment of eclampsia could only be carried out in a hospital, and so there was an increased number of cases with a diminished death-rate.—Dr. G. KEPPIE PATERSON alluded to the possibility of some of the improvement in the death-rate being due to the general improvement in sanitation in the city. The mortality from infectious diseases had decreased in Edinburgh during the period under review. He had been an assistant many years ago in another city where there was a severe type of all infectious diseases—measles, diphtheria, and scarlet fever. While there within a year he saw several cases of albuminuria of pregnancy and of eclampsia. All the cases of albuminuria recognised and treated got well through the labour; all those where eclampsia set in during labour or where he had been called in for that condition died despite treatment, showing the severity of the type of eclampsia met with there. It was hardly fair to compare the statistics of other cities with those of Edinburgh; the climatic conditions were very different, and the state of sanitation in some continental cities was very deficient. The mortality from eclampsia in other cities might well be compared also with the death-rate in infectious diseases.—Dr. H. OLIPHANT NICHOLSON referred to the striking difference between the diet of town and country patients. If it was admitted that meat diet had anything to do with the disease, it was probable that there must be some defect in the proteid metabolism of the body; and that brought in the question whether some of the internal secretions, such as the thyroid, were functioning properly. In exophthalmic goitre, where there was an excess of thyroid secretion, one probably never got eclampsia. Persons with tubercle had also an excess of thyroid secretion, and so far as his experience went they never had eclampsia. The thyroid secretion had been shown to have some very important antitoxic effects.—Dr. J. LAMOND LACKIE mentioned two most interesting years in Paris. The climatic conditions were exactly the same, yet in the first year there was a very small number of eclamptic cases; in the second there were ten times the number. The cause was unexplainable. As regards the diet, he did not find that eclampsia was less frequent amongst the rich than amongst the poor; there was the same proportion of cases. The constitution of the patient and the climate seemed to be of no account at all. It seemed to him that diet had some effect, but how it acted he did not know.—The PRESIDENT referred to the statistics showing that in Edinburgh 1 in 35 of the cases was eclamptic, and 1 in 250 in other cities, but that was due to Edinburgh having such a large proportion of abnormal cases sent to the Maternity Hospital; other maternities had a far larger proportion of normal cases. He had experience of a home which admitted only primiparæ and for some time before confinement, and there no eclampsia had occurred. These patients had not a highly nitrogenous diet and were kept mostly in the house, and thus not exposed to climatic changes. A point of interest difficult to explain was that eclampsia occurred more frequently in plural births.—Sir HALLIDAY CROOM replied.

Dr. JAMES YOUNG read a paper on the Treatment of Contraction of the Pelvic Outlet, giving details of two cases—one treated by pubiotomy and the other by induction. He said: In this country contraction of the pelvic outlet has not received much attention. This is shown by the fact that in text-books and in discussions at medical societies, treatment of contracted pelves is almost always considered in terms of the diameters of the inlet. There are two types of contracted outlet: (1) where the condition is superimposed on a generally contracted or justo-minor state; and (2) where the contraction is limited to the outlet. This latter constitutes the funnel pelvis which is by far the more common of the two. It is probably due to an assimilation of the last lumbar and first sacral vertebræ. Where the distance between the tuberosities is reduced to 3½ inches, the posterior sagittal diameter should always be measured. This is done by placing a pencil across the outlet at the region of the bis-ischial diameter and then measuring between the centre of this and the tip of the sacrum. One centimetre subtracted from this gives the posterior sagittal diameter. The treatment of contracted outlet by induction is only approximately scientific, because there is no method, such as that available for brim contractions, of determining the relative sizes of the fœtal head and of the pelvis, and thus of deciding the most suitable time for interference. Pubiotomy possesses two great advantages—it enables the obstetrician to await the test of labour and it results in a permanent enlargement of the outlet. There is also a slight increase in the brim measurements in some cases, but this is too indefinite to increase the value of the operation for brim abnormalities. In the case of the outlet, on the other hand, it may transform a contracted into a normal pelvis with subsequent spontaneous deliveries. The disadvantage of pubiotomy (as also of Cæsarean section in favourable cases), as compared with induction, is that taken all over the maternal mortality of the former is 2 to 3 per cent., whilst in the latter it is practically *nil*. As the mother's interests must dominate the issue, induction is preferable in the average case. If pubiotomy or Cæsarean section is decided upon it must only be where there is expert skill at hand and where the woman has consented to the additional risks. First case: The patient was 28 years old, with a bis-ischial diameter of 3½ inches and a posterior sagittal diameter of 2½ inches; other diameters were normal. The first labour was ended with craniotomy; the second labour was induced at the thirty-sixth week, and ended with difficulty by forceps, the child being born dead. Her third labour was ended by pubiotomy, with an easy birth and a living child of 8½ lb. weight. Convalescence good; a slight limp was present for two months. X ray photograph six weeks afterwards showed the union to be mainly fibrous. Second case: Bis-ischial diameter was 2½ inches, and posterior sagittal diameter 3½ inches; other diameters normal. Induction of labour carried out at the thirty-seventh week by bougie; some delay of head in the pelvis. Child healthy, and 6 lb. in weight. Mother's recovery normal.—Sir HALLIDAY CROOM was against pubiotomy as an operation of choice. Pubiotomy should be the complement of forceps. Cæsarean section was better, and pubiotomy should only be done if Cæsarean section was refused.—Dr. LACKIE instanced a case of pubiotomy he had done for contraction of the brim. The operation was very simple and very easy; it only occupied 17 minutes till the child was delivered.—Dr. HART, Dr. FORDYCE, Dr. NICHOLSON, and the PRESIDENT made remarks on the paper, and Dr. YOUNG replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Exhibition of Cases and Specimens.

A MEETING of this section was held on Feb. 2nd, Mr. R. H. WOODS, the President, being in the chair.

Dr. J. BOYD BARRETT exhibited photographs showing marked Asymmetry in the Face of a child. The lower jaw came over towards the right to the extent of two incisor teeth. There was neither wry-neck nor atrophy. Slight asymmetry was to be seen in the face of the mother. In reply to a question he said he could see no change in the

teeth corresponding to the change in the bones, the only difference being that the jaw had gone over to the extent of two incisor teeth, and, therefore, mastication had been somewhat difficult.

Dr. WALTER STEVENSON showed two cases of Congenital Dislocation of the Hip treated by Lorenz's Method. The first was in a little girl, aged 3, who had been in hospital for eight months. Skiagrams were exhibited showing the position when treatment commenced and at various periods during the progress of the case. The final X-ray photograph showed the acetabulum to be fairly well arched. The leg was still held a little in advance and abducted, but this was gradually improving. The patient could now get about very well. Treatment extended over 14 months. The second case was that of a boy aged 3 in whom the right hip was affected, which was more rarely met with. Treatment was continued for six months. Skiagrams were exhibited showing the progress of the treatment. Examination showed that the joint was now in good position.

Mr. W. S. HAUGHTON exhibited four skiagrams showing the progress of a case of Congenital Dislocation of the Hip, treated by Lorenz's method, in a child, aged 3 years, who was under treatment for more than 12 months. The first demonstrated the position of the bone at the commencement of treatment; the second the position when halfway through, with the thigh bone brought down to an angle below the horizontal, and the acetabulum more arched and bony; in the third a further extension of the arch of the acetabulum was to be seen; the fourth demonstrated the acetabulum in a still more forward position, with further ossification at the head of the femur. He said that the results demonstrated that Lorenz's method was safe and satisfactory, but as it had to be done with a considerable amount of strain it should be performed by those in the habit of dealing with bone cases.—The PRESIDENT said that the photographs showed clearly the process that took place in the growth of the acetabulum. It was clear that the method was scientific.—Mr. W. PEARSON also discussed the cases. Mr. STEVENSON, in reply, said that since April, 1910, he had come across seven cases, and in one case of double congenital dislocation the patient was 22 years of age. Very few cases were diagnosed before the patients commenced to walk, but the sooner treatment was undertaken the easier it would be to get the head of the femur into the acetabulum, and the bones were more likely to develop into better shape. Tenotomy was necessary in any cases that he had seen. The interval between the stages was guided by the X ray skiagrams.

Mr. W. I DE C. WHEELER exhibited two cases operated on for Aneurysm in the region of the Cœliac Axis. One patient was back at work 15 months after operation; the second was operated on six months ago. Colt's instrument was used in both instances, a cage of 150 inches of gilded wire being introduced in the first, and a wisp of 105 inches in the second case.[1] The prominent symptoms before operation were intense pain in the back, marked epigastric pulsation, and digestive disturbances. A systolic murmur could easily be detected over the tumour. Mr. Wheeler considered that the pain in the back was more likely due to the stretching and heaving of the peritoneum of the posterior abdominal wall than to erosion of the vertebræ. This was borne out by a post-mortem examination on a third case. In each of the cases operated on by Mr. Wheeler the pulsation and the pain in the back became more violent for a few days after operation, then rapidly improved, the pain completely disappearing. Mr. Wheeler urged the necessity of rigid aseptic precautions, the technique for ordinary operative work being insufficient when a large quantity of metal was to be buried in the interior of a very diseased artery. These were the first cases shown in Dublin after operation for abdominal aneurysm.—The PRESIDENT, Mr. PEARSON, and Mr. A. J. McA. BLAYNEY discussed the case.—Mr. WHEELER, in reply, agreed with Mr. Pearson that if fusiform aneurysm were wired death must follow. He would not like to say that his cases were cured, but in the first case a very fair result had been shown, while in the second there was less murmur, and all pain in the back had gone.

In the absence of Mr. W. TAYLOR, Mr. STOKES showed a case of Sacro-coccygeal Tumour, present at birth. When tapped a gap in the sacrum could be felt, through which the abdominal contents protruded. The fluid removed contained a large quantity of albumin and a trace of sugar.

Mr. BARRETT showed a child suffering from Talipes Calcaneo-valgus, one of the rarest forms of talipes, but the simplest form to treat.

Mr. WHEELER showed a case illustrative of the success of Operative Interference in cases of Hyperthyroidism. The patient had been treated for over three years by medicinal means without any improvement. She had marked tremors and tachycardia, her pulse-rate averaging 120. The blood count showed marked lymphocytosis and a leukæmia of the neutrophilic polymorphonuclear cells. She had lost weight and become intensely excitable and nervous. One lobe of the thyroid was removed. Free drainage after operation and administration of large quantities of saline per rectum were relied on to prevent a further poisonous dose of the secretion. None of the contra-indications to thyroidectomy for Graves's disease were present. The symptoms were intensified for the first few days after operation, after which the patient made an uneventful recovery.

[1] THE LANCET, Sept. 19th, 1903, p. 802.

SECTION OF MEDICINE.

Insanity in Ireland.—Clinical Estimation of Blood Pressure.

A MEETING of this section was held on Feb. 9th.

Dr. W. R DAWSON read a paper on Insanity in Relation to some other Circumstances of Life in Ireland. In England and Wales mental affections were found to predominate together with pauperism in the rural districts, while alcoholism prevailed in the mining and manufacturing counties, there being no constant connexion between insanity and alcohol. In Ireland the distribution of insanity was found to follow a similar rule, though the differences were not so marked. The geographical incidence of insanity showed no relation to density of population, but corresponded to a considerable extent with that of pauperism, and to a less degree with the rateable value of land. It bore little, if any, relation to the emigration-rate, and none at all to the death-rate, either general or tuberculous. There seemed to be some slight correspondence between insanity and criminality as regarded their distribution in Ireland, but practically none between insanity and drunkenness; and in general it appeared that alcohol was of comparatively small importance as a cause of insanity in Ireland. The incidence of pauperism in that country bore little relation to that of poverty. Criminality prevailed in the large towns, as in England and Wales, while, on the contrary, drunkenness was in greater excess in the rural districts, in contra-distinction to conditions across the Channel.—The paper was discussed by Dr. T. G. MOORHEAD, Dr. H. C DRURY, and Sir W. J. THOMPSON (the Registrar-General)

Dr. G. E. NESBITT, in a paper on Clinical Estimations of Blood Pressure, said that instruments in use at present fell into two groups: 1. Those dependent on the application of a pad to an individual artery. These could not be regarded seriously as scientific instruments owing to the number of fallacies involved. 2. Those on which the pressure was estimated by an armlet surrounding the limb—e.g., the Riva-Rocci apparatus and its modifications. Though the possibilities of error with these instruments also were numerous, most of them could be guarded against, especially by the use of the auditory and visual methods introduced by Oliver. How much thickening and hardening of the vessels interfered with a correct reading of pressure was debatable. It might introduce a very serious fallacy. The estimation of diastolic pressure by methods based on the maximum of oscillation of the index was untrustworthy and practically impossible. Attention should also be paid to disturbing factors in the patient apart from disease—i.e., the fluctuation of pressure in connexion with the various functions and habits of life was considerable, amounting, according to some authors, to a daily variation of 100 mm. Hg. Errors of deduction must be guarded against. For example, low reading of blood pressure did not always mean freedom from vascular disease, and *vice versâ*. Though the method was often of service it must not supplant careful physical examination.—Professor THOMPSON said that many of the points referred to had been corroborated by experiments conducted in his own laboratory. In the hands of one who had not paid special attention to a particular

instrument the observation could not be of much use.—Dr. MOORHEAD said that he could not determine with his fingers whether blood pressure was high or not, and therefore, if an instrument could do this better than the finger it deserved its place in clinical work. He agreed that if arterial sclerosis co-existed in a material degree with a low blood pressure it proved that sclerosed vessels could not require a great compression force to collapse them. If they did, all cases of sclerosis should have a high blood pressure.—Dr. J. SPENCER SHEILL had observed that a rise in blood pressure was one of the earliest signs of the onset of eclampsia.—Dr. DAWSON said that in his experience there was invariably a rise in blood pressure in cases of melancholia and mental stupor, but that the fall that was supposed to take place in cases of mental excitement was not so constant.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on Feb. 15th, Dr. C. J. Macalister, Vice-President, being in the chair.—The following specimens were shown:—Mr. G. C. E. Simpson: (1) Lymphadenomatous Glands; and (2) a series of Appendices with Concretions.—Dr. Nathan Raw: (1) Primary Tuberculous Glands in the Neck with Extension to the Lungs; (2) Aneurysm of Aorta with rupture into the bronchus; (3) Tuberculosis of Body of the Uterus; (4) Tuberculosis of the Heart; and (5) Melanotic Sarcoma of the Dura Mater.—Mr. Arthur Evans: Gangrenous Ovarian Cyst.—Mr. W. Thelwall Thomas and Dr. Nuttall: (1) Chondro-sarcoma of the Breast; (2) Pylorus after Pylorectomy; (3) Mucocele of Appendix (two specimens); and (4) Cyst of Mesentery.—Mr. K. W. Monsarrat: (1) Sarcoma of the Thyroid; (2) Papilliferous Carcinoma of the Kidney; and (3) Fracture of the Skull and Brain Injury from a Revolver Bullet.—Dr. W. Blair Bell: (1) Exfoliation of Endometrium during Menstruation (lantern slides); (2) Bilateral Carcinomatous Sarcoma of the Ovary (lantern slides); and (3) Rhabdo-myosarcoma of the Uterus (lantern slides).—Mr. F. T. Paul discussed the specimens and gave instances of cases of pylorectomy similar to that shown by Mr. Thomas; also of mucoceles of the appendix. He did not think Mr. Monsarrat's case was one of sarcoma of the thyroid. He had seen many cases like it, and felt sure that the sarcomatous appearance was merely due to active proliferation of the normal cells. He agreed with Dr. Blair Bell that the bilateral solid tumours of the ovary shown by him could only be described as carcinomatous sarcomata.—Dr. R. E. Harcourt gave an account of the original tumours removed in the case described by Dr. Raw as "melanotic sarcoma of the dura mater." The histological structure of the primary growth, which originated in connexion with the optic nerve, was gliomatous in character.—Dr. Macalister spoke of the extreme rarity of tuberculosis of the heart.—Mr. R. E. Kelly read a note on the Pathology of Torsion of the Spermatic Cord, and showed an illustrative specimen. He stated that the usual form of so-called torsion of the testicle was not a complete twist of the whole organ with its covering of tunica vaginalis, but only torsion of the mesorchium. In these circumstances the latter structure, instead of consisting of a sessile attachment of the epididymis to the parietal layer of the tunica vaginalis, was found to remain in its primitive pedunculated condition; consequently the whole of the twist was limited to the pedicle inside this serous envelope. The specimen shown was obtained from a boy aged 19. The patient was lifting a heavy weight, when he felt something "give" in his groin, and he noticed for the first time a lump over the external abdominal ring. He stated that previously to the accident he had a perfectly descended testicle. Pain was never a prominent feature, and he did not come into the Royal Infirmary until six days later, when the lump, which proved to be a twisted testicle, was removed.—Mr. Thelwall Thomas mentioned two similar cases he had met with. In one of these frequent fainting attacks led to the discovery of the condition. He agreed that pain was not a marked symptom in most cases.—Mr. Simpson and Mr. Paul also recorded cases with which they had met.

OXFORD MEDICAL SOCIETY.—A meeting of this society was held on Feb. 16th at the Radcliffe Infirmary, Mr. Dodds-Parker, Vice-President, being in the chair.—Mr. E. C. Bevers showed a case of Facio-hypoglossal Anastomosis 19 months after operation. The details and difficulties of the operation were described in general. When at rest no paralysis could be detected, and a few movements could be made voluntarily. A good reaction was produced on faradaic stimulation.—Dr. Mallam showed a case of Ulcerative Colitis in a woman aged 35. Various drugs and a variety of medicaments used in lavage had no effect on the condition. Her weight varied for a long time just over 5 st. An organism isolated from the stools was not agglutinated by the blood serum, so vaccine-therapy was not tried. Appendicostomy was performed by Mr. Dodds-Parker. The patient weighed at the present time 6 st. 12½ lb., was much improved in general condition, and greatly so in the matter of her dysentery.—Mr. Dodds-Parker described the details of the operation.—Mr. Counsell related the history of a case of Liver Abscess in a young man. It began with slight gastric disturbance, pain and temperature developing into a typhoid condition, with frequent rigors. Widal's reaction to B. typhosus, B. paratyphosus (B), and B. coli was negative, and a blood culture was negative. An exploratory operation was performed because no improvement was being made, and because of a suspicious tenderness about the umbilicus, but no trace was found of gross lesion in any organ. The rigors ceased after the operation, but marked anæmia set in, and before death a slight pleurisy, which on puncture of the pleura yielded no fluid. The liver and spleen were continuously large, but no deformation of the former was noticed at any time. At the necropsy the liver was found to contain a large abscess in the centre of the right lobe and a smaller one in the left lobe. Streptococci were found in the pus and in the section of the wall of the abscess. The bowel was normal, and no site of infection was found.—Dr. Tyrrell Brooks read the notes of a case of Malignant Endocarditis which had been in the Radcliffe Infirmary. His symptoms at first were anæmia and a splenic enlargement; subsequently a murmur in the heart was found which altered slightly, and an aneurysm was discovered in the left iliac artery. A blood culture was made and a streptococcus found which could not be got to grow. A vaccine from another strain of streptococcus produced great improvement in the symptoms, and a considerable lessening of the anæmia. Death occurred after a few days of severe dyspnœa, and at the necropsy was found to be due to miliary tuberculosis—an ulcer in the thoracic duct from an old gland being found. The aortic valve had a plentiful crop of vegetations, the kidneys were of the flea-bitten type, and the spleen, which was very large, had an enormous infarct in it. Most of the organs showed miliary tubercles.

CHELSEA CLINICAL SOCIETY.—A meeting of this society was held on Feb. 20th, Dr. J. A. Mansell Moullin, the President, being in the chair.—Dr. T. B. Hyslop read a paper on the Intracranial Mechanism in Health and Disease. He contended that the nervous system was a mechanism or instrument which served as a transmitter, and not as a generator, of mechanical force. Quantitatively considered, the sum total of the intracranial contents, both in health and disease, was constant and invariable. Variations were possible only in the relative proportions of the component elements or contents. The deductions derived from the data of comparative anatomy, embryology, pathology, and experiment, as concerned with the structure and growth of the brain and skull, were discussed, and an experimental demonstration of the real nature of the intracranial mechanism, by which the balance of the intracranial contents was maintained, was given. The modes in which defects in the working of this mechanism impaired nutrition and function were discussed, and an account was given of the mechanism of the arterial, capillary, venous, and lymph systems in their several relations to disease. The sum total of the intracranial contents being thus constant, the variations in the relative proportions of these contents might be expressed (approximately) in mathematical formulæ. It became possible also to express in mathematical terms the conditions affecting the balance between internal and external relations and the various relationships between assimilation and dissimilation essential to the maintenance of intracranial equilibrium. In connexion with the structure and mechanism of nerve units, exception was taken to the "neuron theory," and evidence, as deduced from studies of the nerve elements in their several relationships, both phylogenetic and ontogenetic, as well as from anatomy, physiology, pathology, and experimentation, was given in support of a "trophon theory." The following points were submitted for discussion: 1. How far was the brain a transmitter, transformer, or generator of

energy? 2. Phylogenetically considered, was the medullary canal of man primarily alimentary in function; and, if so, did the change in function sufficiently account for the change in structure? 3. Was the sum total of the intracranial contents constant? and, if so, were they warranted in expressing conditions of "give and take" between the intracranial contents in health and disease in (approximate) mathematical formulæ? 4. What was the real nature of the cytoplasm (both nerve fibre and cell) as evidenced by variations in its structure and function? 5. Trophon *v.* neuron.—Dr. Leonard Hill and Dr. Claye Shaw took part in the discussion.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 24th, Dr. A. W. Russell, the President, being in the chair.—Professor Munro Kerr read notes on: 1. A case of Intestinal Obstruction Complicating Pregnancy; operation at the seventh month without disturbing pregnancy. 2. A case of Advanced Extra-uterine Pregnancy in which the fœtus was free in the peritoneal cavity. In the first case the cause of the obstruction was a fibrous band in a large ventral hernia at the site of an old appendectomy scar. It was removed without disturbing pregnancy. In the second case the fœtus was free in the peritoneal cavity, where it must have developed. There was no trace of membranes.—Dr. Shannon read a paper on Some Observations on Concealed Accidental Hæmorrhage, with remarks on a case. The uterus showed small incomplete ruptures. There were several tears on the peritoneal surface, one of which, situated just above the bladder, was several inches in length. The mucous layer was intact. He was of opinion that the effusion of blood caused acute dilatation of the uterus and rupture followed. Death was caused by shock and not by the amount of blood lost. He performed Cæsarean section and hysterectomy, having previously ruptured the membranes to relieve the tension.—Mr. Duff read a paper on Successful Removal of a large Retro-peritoneal Sarcoma, with notes on the method of treatment. The tumour, which was of large size, was adherent to the greater curvature of the stomach and the transverse colon. About 7 inches of the peritoneal and the superficial layers of the colon were stripped in removing the tumour. This was covered with an omental graft. This method of using omental grafts he strongly recommended. There was a good recovery.—Fresh specimens were shown by the President, Professor Kerr, Dr. Stark, Dr. Marshall, Dr. Macfarlane, Dr. Ritchie, and Dr. Shannon.

Reviews and Notices of Books.

Handbuch der Hygiene. Herausgegeben von Professor Dr. M. RUBNER, Geh. Medizinalrat, Berlin; Prof. Dr. M. von GRUBER, Obermedizinalrat, München; und Prof. Dr. M. FICKER, Berlin. I. Band. Pp. 788. Price, paper, 27 marks; bound, 30 marks. II. Band, 2. Abteilung. *Wasser und Abwasser.* Pp. 410, with 111 illustrations and 3 coloured plates. Price, paper, 15 marks; halbfranz, 18 marks. Leipzig: S. Hirzel. 1911.

WE have recently received two volumes of this important work, which consists of contributions from numerous authors in the form of a series of articles on various branches of hygiene.

In Volume I., which relates to general hygiene, food, air, clothing, and soil, an introduction by Professor von Gruber supplies an interesting and philosophical discussion on the position which hygiene should occupy in relation to the well-being of the race considered from the widest point of view. Amongst some of the views which meet with criticism is the common one that by the prevention of disease a number of valueless lives are saved with a consequent depreciation of the average quality of the race. The view held by a certain school of sociologists, that "nurture" exerts only a minimum influence upon the nature of the individual, and that the efforts of hygiene towards the improvement of the body (soma) in contradistinction to the germ-plasm are almost valueless, is also criticised. In the opinion of the author hygiene has too long confined its attention to the welfare of the individual. He insists that the decisive criterion of the well-being of a race is the production of a numerous and healthy posterity, and that "hygiene" which fails to secure this has attained only a partial success. He considers, in fact, that the conscious regulation of propagation is a necessary link in the rational conduct of human affairs.

A short History of the Development of Hygiene from the earliest times is contributed by Professor Rubner. The lines along which this development has proceeded in different countries are traced, and a brief account of the growth of bacteriology and parasitology is given. The same author is responsible for a chapter on Metabolism and Energy Exchange, in which are discussed the chemical constitution of foodstuffs and their value for the purposes of nutrition and the supply of energy to the body. The methods employed in the investigation of problems of metabolism are clearly explained, and various questions, such as vegetarianism, minimum protein requirements, and the amount of food necessary for the proper maintenance of health, receive consideration.

Professor J. Mayrhofer contributes an article on Food and Food Adjuncts. In the section devoted to meat the subject of food poisoning is discussed, and useful references to work done on this subject are given. Mention is made also of the various methods used in preserving meat, eggs, and other foodstuffs. In this connexion it is interesting to find that Appert, who introduced the process of canning foods, attributed its preservative effect merely to the exclusion of air, a view which is still held by some packers at the present day. Milk and its preparations are also dealt with, and references are given to work which has been done on the enzymes of milk. In the section devoted to cereals the bleaching of flour receives attention. No mention is made of the addition to flour of the chemical substances euphemistically known in this country as "improvers," whence it may be hoped that they have not found their way into Germany. No account appears to be given of self-raising flour or of baking powders; although the practice of home-baking is universal in Germany the methods employed in the preparation and packing of baking-powder are inferior to those adopted in this country. Butter, margarine, and other foodstuffs, including condiments and stimulants, are also dealt with, and methods are given for detecting foreign substances with which they may have been adulterated.

Professor Lode contributes an article on the Atmosphere, in which the constituents of air are described, their physiological actions discussed, and, in the case of the more important constituents, methods are given for their estimation. Dust and other impurities receive attention, and the question of the toxic qualities of expired air is also fully dealt with. A useful section is devoted to the effect of compressed air on workers exposed to it, though it hardly brings out sufficiently the views which have been held concerning the relative advantages of gradual decompression and decompression by stages.

Professor Prausnitz contributes an article on the Effect of Soil upon Health, and gives an account of the methods that have been employed in researches upon soil and the results that have been obtained. Two articles by Professor Rubner describe the Hygiene of Warmth and Clothing. The correct fitting of boots is discussed in one of these articles as well as in an article by Professor Hueppe on Physical Exercises, in which the various systems of physical culture and their effect on health are considered. The volume concludes with an article by Professor Lode on Climate and its Effect on Health; an account of mountain sickness, the effect of climate on metabolism, and a discussion on acclimatisation are included in this section.

The subjects dealt with in the second of the volumes

(Vol. II., Band 2) are Water-supply, by Dr. O. Spitta; Sewage Disposal, by Dr. Schmidtmann, Dr. K. Thumm, and Dr. C. Reichle; and the Biology of Water and Sewage, by Dr. R. Kolkwitz. Germany for many years was far behind Great Britain in the provision of public water services and in precautions to secure purity of water. Much has been done in recent years, however, and in an introductory chapter on the History of Water-supply in Germany Dr. Spitta refers to the great stimulus given to the scientific study of the subject by the Hamburg cholera epidemic of 1892, which was fully investigated and described in the columns of THE LANCET,[1] the typhoid outbreak at Gelsenkirchen in 1901, and other epidemics which were traced to contaminated water. Fifty years ago there were only six important town water-supplies, whereas in 1903 the Imperial Board of Health was able to state that only 4 per cent. of towns with 15,000 inhabitants and over were still dependent on private wells.

An interesting chapter on the diseases due directly or indirectly to water is followed by detailed consideration of the various Natural Sources of Supply. Much space is given to the characteristics of ground water, a circumstance explained by the fact that about half the population and more than half the cities of Germany derive their supplies from this source. Dr. Spitta describes how the difficulties frequently arising from the presence of iron and manganese have been gradually overcome.

Under the head of Filtration, prominence is given to Kruse's view that the efficiency of the sand filter does not depend on the formation of a surface skin, but rather on the general sliming of the body of the filter. To obtain a satisfactory filtrate the maintenance of a constant pressure is regarded as most important, and for that reason mechanical filters are recommended only where there is no serious pollution of the raw water. The ozone method of sterilising water is favourably described. The practical difficulties which stand in the way of utilising ultra-violet rays are also made clear. The author is apparently unaware of Houston's work on the purifying effect of simple storage on Thames water. The classical memorandum of the Imperial Board of Health on the "Purification of Surface Water by Sand Filtration," is reproduced, and a short bibliography is given at the end of each chapter.

The section dealing with Sewage Disposal opens with an account of the development and present position of the sewage question. As in England, so in Germany, the state of the law in regard to the pollution of rivers is unsatisfactory. There is no central executive authority, but by judicious cooperation between the Imperial Health Council and the executives of the several States considerable progress has been made during the last decennium. In Prussia, pending the passage into law of a General Water Bill which has been in draft since 1907, the position is governed generally by an Order of 1901, which lays down the lines on which local authorities should take action for the prevention of water-borne disease, pollution of public supplies and nuisance to the public, and also for the protection of fisheries. A special account is given of the excellent work that has been done at the Prussian water and sewage experimental station under Dr. Schmidtmann. The standard in regard to sewage effluents has been considerably relaxed in recent years, and is now made to depend on local circumstances. Chapters follow on the composition of raw and filtered sewage, methods of domestic excrement disposal, and there is given a very complete summary of modern methods of sewage treatment, both "natural" and "artificial."

The common German practice of placing soil-pipes against inside walls, which we should consider objectionable in this country, is no doubt to be explained in large measure by the difference of climate. Disconnecting traps are rarely used and are not recommended. Drains are laid in cement only where they are subjected to much pressure. Joints are sometimes made with an asphalt mixture which is said to combine pliability with the merit of being gas-tight and water-tight. Of systems of sewerage a modified separate system appears to find greatest favour. Various forms of screens are figured and described, as is also Imhoff's ingenious sedimentation tank in use at Ems. Detailed reference is made to Stenernagel's experiments on sedimentation at Cologne, and also to Uhlfelder and Tillmans's investigations at Frankfurt a Main. Dunbar's work on the processes underlying biological purification finds due recognition, but in the chapter on sludge disposal mention might have been made of Grossmann's experiments at Oldham.

As a whole, this section has been well prepared, and its value is considerably enhanced by the addition of a well-selected list of references to the literature of the subject.

[1] THE LANCET, July 7th (p. 46) and August 25th (p. 457), 1894.

The Control and Eradication of Tuberculosis. A Series of International Studies by Many Authors. Edited by HALLIDAY G. SUTHERLAND, M.D. Edin., Medical Officer to the St. Marylebone Anti-Tuberculosis Dispensary. Edinburgh and London: William Green and Sons. 1911. Pp. 451. Price 15*s.*

THIS volume contains a number of articles dealing with the control and prevention of tuberculosis. It is dedicated to Dr. R. W. Philip, and an open letter to him, and signed "Your Pupils among the Contributors," commences with the passage: "In asking you to accept this work on the Control and Eradication of Tuberculosis we do so not only as a tribute to the pioneer in this field of medicine, but also in the hope that these studies, bearing the impress of your teaching, and contributed by writers of many nations, may advance the movement in this and in other lands." These words sufficiently indicate the nature and scope of the work.

An interesting account of the principles and methods of the Edinburgh system is given by Dr. W. Leslie Lyall, assistant physician to the Royal Victoria Hospital for Consumption, Edinburgh. The fundamental principle of this scheme is that, not content with treating the individual patient who presents himself, the disease should be sought out in its haunts.[1] This is, of course, a sound contention, but it requires an elaborate organisation to carry it into effect. Dr. Lyall explains the details of such an organisation—namely: 1. The dispensary, where patients are advised as to treatment and instructed in such points as the disposal of sputum, necessity for windows being kept constantly open, sleeping arrangements, and segregation in so far as it can be carried out under his own domestic conditions. The duties of the nurses attached to the dispensary are duly described. 2. The sanatorium—the Royal Victoria Hospital—the buildings being in accordance with the latest and most modern style of sanatorium architecture. 3. Notification. 4. Hospital for advanced cases. 5. The farm colony, where patients are employed who have already been inmates of the hospital, but who still require a lengthened period of supervision before returning to ordinary life. This is a comprehensive and excellent plan, and if a similar scheme could be carried out in other large cities much would be accomplished in the direction of the prevention of tuberculosis.

Professor Béraneck, of Neuchâtel, contributes a short article on the theoretical and practical basis of tuberculin in treatment. The general conclusion of this paper is as follows. It is not possible to raise the resistance of organisms except by increasing the digestive functions of

[1] THE LANCET, July 31st, 1909, p. 284.

the leucocytes against the tubercle bacillus and its endotoxins. The tuberculins that are most likely to bring this about are those which contain the bacillary endotoxins in the form in which they are most easily assimilated by the leucocytes. Professor Béraneck describes the method of preparing a tuberculin which he maintains possesses the properties just mentioned.

Several chapters are devoted to the "anti-tuberculosis" movement in other countries, such as Canada, South Australia, the United States, Russia, Italy, and elsewhere. These chapters are of some interest, but we think it would have been well not to have confined the articles, as far as the United Kingdom is concerned, to the Edinburgh system and to the institutions founded on that system only. It would have been better if the work accomplished at the English hospitals and sanatoriums had also received notice.

Handbuch der Vergleichenden Physiologie. Herausgegeben von HANS WINTERSTEIN. 17. Lieferung. Band I.: *Physiologie der Körpersäfte.* Erste Hälfte. Bogen 11–20. Pp. 161–320. Price 5 marks.—18. Lieferung. Band II.: *Physiologie des Stoffwechsels.* Erste Hälfte. Bogen 72–98; nebst Titel und Inhalt. Pp. 1145–1562. Price 5 marks.—19. Lieferung. Band III.: *Physiologie des Energiewechsels, Physiologie des Formwechsels.* Erste Hälfte. Bogen 1 bis 10. Pp. 1–160. Price 5 marks. Jena: Gustav Fischer. 1911.

Dr. Fil. Bottazzi continues (17th Lieferung) his account of cytoplasm and tissue juices, and in doing so he gives an account of such matters as colloids, gels, and hydrogels, the work of Mann and Hardy in this country being fully acknowledged. The difficult physical problems that beset the investigator of such a subject as imbibition are expounded in a way which seems to give delight to the author, though the average reader will have to ponder over, and perhaps read a second time, the large number of physical facts which it has been contrived to tabulate. On p. 173 and subsequent pages the author shows concisely the application of these physical facts in the domain of biology. Crystallo-colloids and ions, adsorption, and hormones are next considered, but as to the hormones and how they act, "Wissen wir Nichts" (p. 211). The whole question of cell membranes is lucidly set forth in a comprehensive essay. The large part played by lipoids is fully discussed. A most interesting chapter is that devoted to the transformation of energy and the chemical processes that take place in living matter (pp. 263–290), full advantage being taken of the work of Benjamin Moore. The remainder of this "Lieferung" is devoted chiefly to "cell-juices." Dr. Bottazzi has done his work well, both in setting forth facts and in his acute criticisms on very difficult problems of cell physiology.

In the rather stout 18th "Lieferung," which contains the index for Vol. II., Professor Biedermann continues his elaborate exposition of the various methods and mechanisms by means of which animals take in, manipulate or digest, and then assimilate their food. The interesting mechanisms for the "prehension" of food by the chameleon and by various types of birds are first set forth, and the part played by the tongue is admirably described and depicted. A very full account is given of the salivary glands in animals, including the work of Pawlow, the chemical aspect of the question being also fully discussed. Then follows an account of the stomach in amphibia, reptiles, and birds (pp. 1178–1349), with a considerable number of illustrations from well-known authorities. The author writes with a full knowledge. Physiologists and zoologists alike would do well to consult and digest this elaborate chapter. The figure (No. 400) of the crop of a pigeon (after Marshall) is not so good as the classical one of John Hunter. All kinds of histological and chemical investigations are cited, so that we are almost bewildered with the array of facts. Even the ciliated and other parasites that occur in the alimentary tract of animals are fully described, while the whole question of digestion in carnivora, herbivora, and omnivora is set out with a minuteness of detail unsurpassed in any other treatise.

The movements of the intestine are dealt with in a similarly thorough manner from the amphibia upwards. Claude Bernard's figure of the pancreas in the dog (Fig. 456) is admirably reproduced, and so is his figure of the pancreas in the rabbit, but we miss his still more striking illustration of the appearance of chyle in the lacteals below the opening of the pancreatic duct. Nor does Professor Biedermann forget to introduce in his illustrations the latest results obtained by the Golgi and Cajal methods. We find what is to us a new name, "enterasen," exemplified by lipase (p. 1402 β). The literature alone occupies 27 pages. It is a slip that stomach appears as "stomac" (p. 1469), and taking the literature as a whole there are relatively very few English names.

R. du Bois-Reymond, a son of the famous physiologist of Berlin, has for many years devoted much attention to the "Physiology of Movement." Readers of this most interesting (19th) "Lieferung" will not be disappointed. Some may recollect Engelmann's masterly exposition and summary of protoplasmic, ciliary, and allied movements; the author, in his account, cites and extends the work of Engelmann. The illustration from Grützner on smooth muscle is rather poor (p. 28) and is lacking in proportion. On p. 32, should not "wie" be "wie"? Full use is made of Fredericq's interesting article on Autotomy in Richet's "Dictionary." Many pages are devoted to the physiology of motion in the various classes of animals, beginning with the mammal and ending with the medusæ, the sponges, and the protozoa, amongst the invertebrates. The work of Borditch on ciliary motion is not cited, while only one reference in the index of papers is made to the work of Ranvier. The special physiology of locomotion is next dealt with. The researches of Borelli, Pettigrew, Marey, Muybridge, Auschütz, Saville Kent, v. Uexküll, and many other investigators are agreeably set forth. Beginning with man and his movements on terra firma, the author deals next with those of birds—the media on or in which animals move forming the basis of his arrangement. A much better figure of the claw of the lion (after Owen) might have been found, and the same may be said of the illustration of periophthalmus (after Günther). In connexion with the movement of the foot of a snail or slug, there is no figure of the muscular waves which can be shown so convincingly by the kinematograph. The final pages deal with "movement in water." The author has condensed an immense amount of information into his article.

Applied Anatomy of the Lungs and Pleural Membranes, with Special Reference to the Apical Region of the Chest. By J. STUART DICKEY, M.D. Belf., B Ch. R U.I., Senior Demonstrator of Anatomy, the Queen's University of Belfast. With 50 figures. Belfast: Alexander Mayne and Boyd. 1911. Pp. 128. Price 5*s.* net.

THIS monograph is the 1910 Gold Medal Thesis for the degree of M.D. of Queen's University, Belfast, expanded for publication in book form. The thesis consists of a description of the regional anatomy of the lungs and pleural membranes, studied mainly with reference to the clinical importance which must of necessity be attached to a precise knowledge of the topography of the thoracic viscera. Special attention is given to the apex of the lung, and some discussion is introduced concerning the much-debated reason for the apical site of election of pulmonary tuberculosis. The fifty figures are admirable pieces of work,

and those especially which depict the relations of the apex and the thoracic operculum are to be commended for their accuracy. The text does not always fulfil the high expectations created by an examination of the figures, for in some places it consists of text-book quotations, which one feels to be unnecessary when so much material has been examined at first hand. Nor is the truth of all these quotations borne out by what the author has figured from his own dissections. For instance, in an actual section of the thorax, the lower end of the trachea is shown well to the right of the middle line, while Eicken is quoted as saying that it frequently deviates to the left, and the author, when giving reconstructed charts of the topography of the chest, places it in the middle line.

We feel that the author has done good and original work, and yet the stereotyped descriptions of the text-books, rather than the actual findings in the body, are at times the criteria on which he has formed his judgments. Perhaps it is a heresy to say so, but the feeling is irresistible that it were better not to consult the works of some 60 previous authors, when, as in this case, a sufficiency of material has been examined to warrant dogmatic statements, regardless of text-books, concerning the actual condition in the human body. One work the author does not quote, and this one we feel would have been more valuable than all those he has included; for there is perhaps no contribution to the study of the thoracic viscera which is based on more first-hand experience than the masterpiece of Francis Sibson, published in 1869.

Psychology of the Religious Life. By GEORGE MALCOLM STRATTON, Professor of Psychology in the University of California. London: George Allen and Co. 1911. Pp. 376. Price 10*s.* 6*d.*

THIS attempt to explain psychologically the religious life, and especially the vision of the ideal, is no effort to explain it away or to destroy its claim to man's belief. The discovery of the natural causes of religion does not imply that its ideal world has no reality except in man's thought; the dim and broken image of perfection may well be formed in sympathy and correspondence with a perfection that is most real. In his preface Professor Stratton points out that a psychological account of religion based merely upon answers received from individuals when questioned in regard to their religious experience must be but limited, as it will take no notice of the religious life of a wide variety of peoples who are by nature reticent or who are not easily reached for other reasons.

The author has escaped most of these difficulties by examining the prayer, the hymn, the myth, and the sacred prophecy of all nations—a method that furnishes to the psychologist the surest indications of different religions, as their adherents are, so to speak, taken off their guard, and examined without producing self-consciousness. In the religious life there is an inherent struggle. The presence of the Supremely Impressive makes the self and other men and all the common goods of life at once of value and contempt. Different people have a different sense of this discord. "The Greek pictured the world, somewhat as he built his temple, with a certain simple grace; while the Germanic mind, like the Gothic vault with its impenetrable shadows, saw the gloom and the evil close to what is fair; every person in varying degree reveals a peculiar feeling of the tension of the world." The greater part of the book deals with the various conflicts observed in religions—e.g., that between good and evil, those in regard to feeling and emotion, such as renunciation or acceptance of the world, appreciation or contempt of self; conflicts in regard to action, ardour or coolness towards ceremonial rites, and conflicts in regard to religious thought. On p. 241 Professor Stratton gives a striking example: "We often have in lynching an attempt in good faith to apply the abstract idea of justice in a definite situation; ..... but in its frenzy the mob catches no glimpse of the many sides of its conduct that are a wide departure [therefrom] and which really strengthen the hold of crime and injustice upon men." Homer describes the immortal gods "that exist for ever and never had beginning," and yet in contrast to this the actual narrative sets forth their birth and parentage in the human way. No story in Homer, however, could more flatly contradict the Church's higher abstract conception of what a divine character truly is than the account of God's anger with transgressors in the Old Testament. "His very anger testified to the bond between Him and men; indifference would have been a sign that the gulf was impassable." When we are impressed by the incongruity between such a representation and divine perfection it is "because we have lost sight of its many sides that are harmonious with even the highest ideal, and which give it value to one who is at once reverent and uncritical."

At the end of this most interesting work the central forces of religion are dealt with. "In the simple act of sight, hearing, or touch we always perceive more than our sense-impressions warrant. Human speech and laughter are in their bare reality a mere spatter of sound which we instantly amplify ..... into meaning. ..... The completion of the observed world by adding to it the great unobserved world, so real to the religious, is therefore no anomaly." The book is one that cannot be adequately reviewed in any short notice. Painstaking research is evident on every page, quotations from the Rig-Veda, the Zend-Avesta, and Confucius are compared with fragments of the Koran, while the practices of Iroquois, Algonquins, and various African tribes are mentioned when germane to the subject. But we have indicated that the work would be a valuable addition to the library of any serious student of the philosophy of religion.

Gewerbliche Vergiftungen; deren Vorkommen, Erscheinungen, und Verhütung. By Privat-dozent Dr. J. RAMBOUSEK. Leipzig: Veit and Co. 1911. Pp. 431. Price 13.50 marks.

FOR that increasing class of persons interested in industrial hygiene we know of no book so comprehensive, systematic, and rich in references as this work on Industrial Poisonings, their Causes, Symptoms, and Prevention.

The subject, if it is to be treated at all fully, requires a very wide knowledge, and Dr. Rambousek is qualified to deal with it. He is the medical officer attached to the Central Administrative Authority in Prague, having supervision over dangerous industries in Bohemia, and he is also a professor of hygiene in the University. He is, moreover, recognised as quite one of the ablest writers on industrial hygiene on the continent. We appreciate the careful planning of the work. It is divided into three parts: first, the sources of industrial poisoning, which involves detailed account of the risks incurred in processes for the extraction of metals and for the manufacture of the substances collectively spoken of as "chemicals"; second, a survey of the symptoms and pathology of the different kinds of industrial poisons—those having local effect especially on the skin, those acting on the blood, and those having specific effect on internal organs; and thirdly, preventive measures, including legislative enactments. Especially interesting are the sections dealing with the effects of petroleum, tar, benzene, and its nitro- and amido-derivatives, anilin and dinitro-benzol.

The value of the book to the English reader at all familiar

with the matter under review is the very complete account of the wide researches made on the continent, notably by K. B. Lehmann, of Würzburg; Lewin and Roth in Berlin; Wutzdorff and Leymann, of the Imperial Health Office; Glibert, of Brussels; Carozzi, of Milan; Teleky, of Vienna; and the late Dr. Chyzer, of Budapest. Reference to work done in this country appears to have been obtained mainly from papers contributed to international congresses or from abstracts of Home Office Blue-books and the like in German and Austrian papers specially devoted to industrial hygiene.

It is the fullest work of its kind known to us, and will be of great value to those who read German. It might well be translated.

The House Surgeon's Vade-mecum. By RUSSELL HOWARD, M.B., M.S. Lond., F.R.C.S. Eng., Surgeon to Poplar Hospital; Assistant Surgeon, London Hospital. Illustrated. London: Edward Arnold. 1911. Pp. 511. Price 7*s.* 6*d.* net.

As the name suggests, this book is intended for the use of newly appointed house surgeons. It is likely to prove useful not only to all those who have to do with surgical work in the wards and out-patient department, but to those in practice who have not had the benefit of a resident post in a hospital. They will be able by its aid to acquaint themselves with the details of modern surgical practice. It is perhaps in the after-treatment of operation cases that the reader will derive the greatest benefit from its study, for it is the part of surgery which is the most difficult to acquire, and the most neglected in ordinary systematic works.

In the chapter on the sterilisation of the hands we are pleased to see that the author lays stress on the advisability of the surgeon keeping the hands free from all forms of contamination, not only when he is about to perform an operation, but at all times. He also rightly insists that too much reliance should not be placed on the use of gloves, for they are easily punctured or torn. The chapter on hernia deserves mention, for in it we find just those details that are generally missing from text-books, such as the exact method of performing taxis and of measuring a patient for a truss.

We have found much valuable information in the book and nothing to which exception can really be taken, and we feel sure that it should prove of much service to those for whom it is intended. It is well illustrated.

Précis des Maladies des Vieillards. Par ADRIEN PIC, avec la collaboration de S. BONNUMOUR. Paris: Octave Doin et Fils. 1912. Pp. 890. Price 10 francs.

THIS volume contains a full and excellent account of the various morbid processes as they affect individuals advanced in life. Some of the maladies described are peculiar to old age, others present phenomena rather different in character according to the period of life at which they occur.

The chapters on senile changes in the heart and vessels will naturally attract most attention, and the remarks on diagnosis and treatment are particularly worthy thereof. The changes that may be noted in the cardiac rhythm are well described, especially in reference to the slow pulse. The condition of artero-sclerosis is discussed at length and numerous useful hints are given as to prophylactic and active treatment.

A good account is given of pulmonary tuberculosis as it occurs in elderly persons. Practitioners in charge of workhouse infirmaries fully realise the frequency with which this affection is found in old age, and the old idea that tuberculosis of the lung was essentially a disease of young adults has had to be modified. Apart from arrested lesions, which have been shown to be so common in all adults, a progressive form of pulmonary tuberculosis is frequently found in elderly individuals. The disease, however, under such conditions, usually follows a slow course, and there is a strong tendency to fibrosis. In the volume now before us, full space is given for a discussion of this subject. The observations recorded are well worthy of study.

The greater part of the morbid conditions discussed are to be found described in various text-books of general medicine, or in monographs on particular diseases peculiar to advanced life; but there is much to be said for bringing such descriptions under one cover, where they will be easy for refeence.

Case Histories in Neurology: A Selection of Histories setting forth the Diagnosis, Treatment, and Post-mortem Findings in Nervous Disease. By E. W. TAYLOR, A.M., M.D., Instructor in Neurology, Harvard Medical School, &c. (The Case History Series.) Boston: W. M. Leonard. 1911. Pp. 305.

IT is difficult to know exactly what purpose is served by the compilation of 114 cases of the more frequent disorders of the nervous system. They are scarcely calculated to illustrate difficulties in diagnosis or to provide material for differential diagnosis, for in by far the greater number of them the diagnosis is very obvious. The remarks on treatment are somewhat scrappy; indeed, for many of the cases here reported no treatment was or could be availing. If a record of clinical and pathological data is to be of value it must be by the elaboration of detail; but many of the histories and examinations supplied by the author are too scanty to appeal to the neurologist. There are no clinical photographs or drawings to relieve the monotony of the record of cases which the reader has never seen; the book may possibly appeal to those who have actually seen the cases referred to, but otherwise it has little to recommend it. A few of the cases present points of some interest on which further information would have been welcome. Case No. 86, diagnosed as acute bulbar paralysis by the author, looks more like a case of pseudo-bulbar paralysis. Case No. 92 may conceivably have been one of subthalamic lesion, not of paralysis agitans. In any case, this is just a point on which more detailed differential diagnosis might have proved instructive. It is erroneous, we think, to state that "forced laughter is often very strikingly developed in certain lesions of the bulb."

LIBRARY TABLE.

Fortpflanzung, Vererbung, Rassenhygiene. Katalog der Gruppe Rassenhygiene der Internationalen Hygiene-Ausstellung 1911 in Dresden. Herausgegeben von Prof. Dr. MAX VON GRUBER und Priv.-Doz. Dr. ERNST RÜDIN. Mit 230 Abbildungen von M. VON GRUBER, nebst einem Bibliographischen Anhang von Dr. RUDOLF ALLERS. München: J. F. Lehmann. 1911. Pp. 178. Price 3 marks.—This is really a catalogue of the elaborate group of printed tables prepared to illustrate race hygiene as shown at the International Hygiene Exhibition held in Dresden in 1911. There are no less than 230 reproductions of these tables, with full descriptions, to illustrate such subjects as propagation of animals and plants, variation, selection, mutation, transmission of acquired peculiarities, laws of heredity in man, degenerations, racial hygiene, and neo-malthusianism, with several pages of bibliography. The preparation of the plates required the coöperation of many workers, while the Minister of State for Scholastic Education in Munich gave a substantial subvention in cash to carry out a most praiseworthy project, the first of its kind. The tables should prove particularly useful to zoologists, botanists, pathologists, and eugenists. We do not know whether they can be purchased in an enlarged form, but if they can be so obtained they would certainly be useful to lecturers. The work represents

a really enormous amount of labour, statistical and otherwise. It is a veritable mine of condensed facts graphically illustrated.

Kurzgefasste Chirurgische Operationslehre für Studierende und Aerzte. Von Dr. AD. OBERST, I. Assistent an der Chirurg. Klinik und Privat-dozent für Chirurgie an der Universität Freiburg i. Br. Mit 232 zum Teil farbigen Abbildungen. Berlin: S. Karger. 1911. Pp. 197. Price, paper, 6.20 marks; bound, 7 marks.—In this work the author does not confine himself to a description of the set operations most usually performed by students in a course of operative surgery, but includes also a number of other operations, such as those for hare-lip and for goitre. It is very suitable for the student of surgery, for it is written with great clearness, and the explanations of the various steps of the operations and the reasons for what is done are stated so that anyone can understand. There is no useless verbiage, yet the clearness of the explanation is not sacrificed to brevity. The numerous illustrations are for the most part excellent, though here and there an illustration is not so clear as might be wished—for instance, Fig. 165. It is a useful little book, and is evidently the work of one who is an experienced teacher as well as a skilled surgeon.

Applied Anatomy and Oral Surgery for Dental Students. By ROBERT H. IVY. London: W. B. Saunders Company. 1911. Pp. 280. Illustrated. Price 6*s.* 6*d.* net.—The author in the preface tells us that the book is not intended to replace larger works on anatomy and general and oral surgery, but rather to indicate to the student the subjects that require his particular attention. We think he has in a fair measure succeeded in his object. He realises that dental surgery is part of medicine, with the result that his teaching is sound. For example, we read that chronic abscesses in which there is necrosis at the end of the root of the tooth are rarely cured by so-called amputation of the root, and extraction of the tooth is the better course. The work, too, is thoroughly up-to-date, for we find under the heading of syphilis a brief but clear account of the Wassermann reaction. The illustrations are good, but we would suggest to the author, when any future edition is contemplated, that the more common forms of disease occurring in dental practice might with advantage be illustrated.

Materia Medica Step by Step. By ARTHUR W. NUNN. London: J. and A. Churchill. 1911. Pp. iv.-236. Price 3*s* 6*d.* net.—Of literature on materia medica there is an abundant supply, but there is room for a little book of this kind which is obviously intended for the beginner. The chemist's apprentice, with the raw drugs of the pharmacy at his command, and the medical student, with a cabinet of specimens, will find the lessons quite interesting and a pleasant introduction to a rather dreary, but necessary, subject. The student is taken over the ground in 31 steps, after each of which he must pause to answer a few suggestive questions. The author deals not only with the official drugs but also with the unofficial materia medica, of which a list appears in the syllabus of the minor examination of the Pharmaceutical Society of Great Britain.

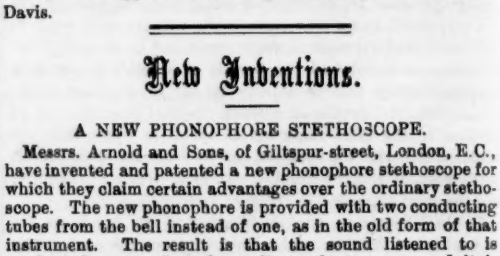
A Text-book of Inorganic Chemistry. By GEORGE SENTER, D.Sc. Lond., Ph.D. London: Methuen and Co., Limited. 1911. Pp. 583. Price 6*s.* 6*d.* net.—The plan of this book is in accordance with recent developments. The old text-book, which stopped short at certain fundamental laws and theories—such as the laws of the conservation of mass and energy, the laws of chemical combination, the atomic theory, molecules, the periodic classification—is not complete for the modern student in view of the enormous importance which the developments of physical chemistry have gained in regard to the interpretation of chemical phenomena. Dr. Senter gives us a modern text-book in which the meaning and significance of new principles are carefully and methodically presented, while he introduces for the reader's consideration and study the subjects of chemical equilibrium, the determination of molecular weights in solution, electrolysis, and electrolytic dissociation—those branches of chemical theory, in short, which constitute new principles. He retains the method which, surely, must ever be right—viz., that of presenting first the simple facts upon which laws and theories are based. Dr. Senter writes from an obviously intimate acquaintance with the needs of the student of chemistry and in a way calculated to develop the reasoning processes of the reader.

Handbook of Electro-therapeutics. By WILLIAM JAMES DUGAN, M.D.—In our review of this book in THE LANCET of Jan. 6th, 1912, p. 30, we gave the name of the publishers of the book only as Messrs. F. A Davis Co., Philadelphia. We should have added the name of the London agent, Mr. Stanley Phillips, 23, Creighton-road, Queen's Park, London, N.W., who supplies all books published by Messrs. F. A. Davis.

New Inventions.

A NEW PHONOPHORE STETHOSCOPE.

Messrs. Arnold and Sons, of Giltspur-street, London, E.C., have invented and patented a new phonophore stethoscope for which they claim certain advantages over the ordinary stethoscope. The new phonophore is provided with two conducting tubes from the bell instead of one, as in the old form of that instrument. The result is that the sound listened to is conducted separately and equally to the two ears, and it is heard more loudly and distinctly. It is claimed that this



instrument is useful in cases with doubtful cardiac murmurs, and in those in which emphysematous lung renders the heart sounds feeble and indistinct; and further, that normal breath sounds are heard more loudly than with the ordinary stethoscope. We have tested the instrument, and find that it is more convenient than the old form of phonophore, and that it conducts sounds well. The prices are the same as were those of the older variety, ranging from 6*s.* 6*d.* to 13*s.* 6*d.*

BRITISH ASSOCIATION.—The president of the next meeting of the British Association for the Advancement of Science at Dundee will be Professor E. A. Schäfer, M.D. Among the presidents of sections will be Professor G. Elliot Smith, Anthropology; Dr. Leonard Hill, Physiology; and Professor A. Senier, M.D., Chemistry. Dr. Arthur Keith will deliver one of the evening discourses. The meeting will begin on Sept. 4th.

THE LANCET.

LONDON: SATURDAY, MARCH 2, 1912.

The National Insurance Act.

ALTHOUGH there has been no abatement of genuine interest in the National Insurance Act within the ranks of the profession, the past week has been one of comparative quiet in the medical world so far as outward signs go. The Representative Meeting of the British Medical Association on Feb. 20th–22nd arrived at conclusions which have brought it home to all that there is a pressing need for a steadfast attitude. The state of comparative calm in which we now are suggests very strongly that the practical compromise reached by the opposing parties in the governing body of the Association has been approved by many of their constituencies, and that some basis of united action has at last been hammered out. This view depends, of course, upon the assumption that the Council of the Association, in whose hands all executive power is vested, intends to carry into effect the instructions which it has now received. The policy set out in the leading resolution of the Representative Body, and unanimously agreed upon by the delegates, seems to stand midway between the courses advocated by extremists on either side, and has met with little adverse criticism. But while for the present the tide of comment has receded, it is clear that the National Medical Union is not content with a situation that still has its deep anxieties. A moderate policy which can weld conflicting medical interests without estranging public sympathy may carry the day for the medical profession, but it is idle to suppose that the battle is won because peace may be restored within the ranks of the British Medical Association. In the long and arduous struggle which is still ahead the advice and support of the great corporations should prove of real value.

The demand that the minimum requirements of the medical profession should be guaranteed in the Regulations, with a view to their ratification by Parliament, and the intimation that failing this the medical profession will stand aside from the Act, seem together to strike a mean between the wholly *non possumus* attitude and the dangerous plan of continuing flaccid negotiations. When the Act, in a form which all men saw to lead straight to numerous difficulties, became law at the close of last year, the split in the medical profession seemed for the moment beyond repair—a party which wished to work the Act was straightly opposed to one which would have none of it, and the political newspapers worked hard to widen the breach. It was then that we made the suggestion that the way out of the *impasse* was for the medical profession to concentrate attention upon the Regulations, and only to refuse medical service if these proved to be unsatisfactory. This proposal, we considered, would avoid the probability of disastrous local bargaining, while avoiding also the attitude of complete summary refusal. Recent events have shown that this policy is acceptable to many medical men of divergent opinions as a workable basis of union, and if the constituencies of the British Medical Association can also bring themselves to accept the compromise arrived at by their Representatives, and to stand by it while the crisis lasts, the future can be regarded as brighter. Union within our body must exact all the recognition of our rights which it is in the scope of the Commissioners to grant; and if their powers fall short of what some believe of them, our solidarity will lead the Government to amend the Act, lest a brave scheme for improving the nation's health should fail miserably of its main object.

The Present Position of Salvarsan.

ON the first introduction of a new drug it is by no means easy to express a decided opinion as to its merits, especially when the disease for which it is employed is liable to reappear many months and years after apparently it has been cured. Of all diseases with which we are acquainted syphilis is probably the one about which it is most difficult to be certain that a permanent cure has been effected; for after intervals which may often be measured by years some manifestation may appear showing clearly that the virus has been latent in the body during the lengthy interval. Therefore when a new remedy is brought forward as more capable of effecting a complete and permanent cure of syphilis than was possible or at least easy by any other method, it is only natural that some of those who had many years' experience in the treatment of the disease should look askance at a remedy for which so great a claim was made; for by means of mercury judiciously, perseveringly, and thoroughly administered results of the very greatest value have been obtained. It is difficult to forsake a tried remedy for a new drug. Now sufficient time has elapsed since the introduction of salvarsan for us to form some idea as to its value and its risks; it is, however, not yet possible to make any dogmatic statement as to the position which the remedy will hold in the future—whether in, say, ten years' time it will be widely used or whether it will have lost much of its present popularity. That salvarsan has a great power against the treponema pallidum is beyond dispute, but the occurrence of a number of fatal cases has shown that it is by no means free from danger; we are, perhaps, in a position to inquire whether these deaths are a necessary accompaniment of the administration of the drug or whether they, or most of them, might have been avoided by greater attention to the method and details of administration.

It must not be forgotten that salvarsan was not a natural substance employed empirically, but a substance obtained as the result of a long series of experiments conducted on the most modern scientific lines. The problem

which EHRLICH set himself was to find a substance which should prove inimical to the treponema, while at the same time it should damage to the least possible extent the normal tissues of the body. His object was to obtain a substance which could destroy completely all the organisms of the disease with one injection, and yet should not harm the host. Whether salvarsan is capable of effecting this cannot yet be said to be proved, but it is at least certain that it has a very great influence on the treponema and that the manifestations of the disease respond as a rule very readily to it. The amount of evidence both as to the merits and the risks of the drug are now numerous, and a reference to the indexes of THE LANCET for last year will show that we have devoted a large space to papers on this subject, and we have done so because we have felt the great importance of the matter. For a final judgment we must wait for some years, but it is at least possible at present from the materials in our possession to express an opinion on the value and risks of the drug. All those who have had much experience of the use of salvarsan are agreed that it is capable of causing the rapid disappearance of syphilitic manifestations; it is true that some lesions seem to be more amenable to its influence than others, but in nearly all cases the action is rapid and effective. In fact, most observers are of opinion that it is more rapid and more effective than is the action of its main competitor mercury. It is true that there are some clinicians who decline to acknowledge that the efficacy of the drug is great, but they are comparatively few in number. The point of the controversy now is the question of the risk attendant on the use of the drug. At first the risk was said to be very small, but at that time it was employed by but a few surgeons, and it was administered with the greatest care, while since the use of salvarsan has spread widely it has been employed much more freely; and it must not be forgotten that the dose has been increased, while in many cases it has been thought necessary to administer a second dose.

That the drug can cause death is certain, and by now a large number of fatal cases have been published. In some of the earlier deaths the fatal result appeared to be due in part at least to the fact that the drug had been administered to patients who were almost moribund, but that explanation cannot be allowed in most of the more recent deaths. In the last issue of THE LANCET we published a letter in which are collected together a number of recently reported fatal cases after the injection of salvarsan, and the list is sufficient to make us consider with great care the risks of the drug. As to some of the cases it is possible to suggest the cause of the fatal result. It appears that in two of the cases mentioned the full dose of 0·6 gramme was repeated after a very brief interval; in one case the interval was only three days and in the other it was a week. Now it has not yet been shown that there is any anaphylaxis with salvarsan, but whether there be or not, it is, to say the least, very unwise to inject so large a quantity of the drug as 1·2 grammes within three days or even a week. It may be answered that it has been done with impunity, but such a dose is extremely large, and the fatal result is not strange. This is pointed out in our columns this week by Dr. G. S. STOPFORD-TAYLOR and Dr. R. W. MACKENNA. It may be necessary to repeat the dose in some cases, but it is certainly advisable that an interval of greater length than a week should be allowed to elapse between the two injections. In some of the fatal cases in which only a single dose has been given the symptoms have pointed to the presence of a meningitis, and they have arisen within a few days of the injection, and in others nephritis has occurred. These are evidently the direct effects of the drug. It is of interest in such fatalities to know whether the solution was filtered before it was injected intravenously, for it is easy to see that minute solid particles of the drug might have a harmful effect that would not be produced by a solution. It is very desirable that in reports of cases where very severe symptoms or a fatal result have occurred that the fullest particulars should be given of the mode of administration, especially as so many different methods are now employed. There is a further point that is worthy of consideration, and that is the relative frequency of fatalities. By now the drug has probably been given in one way or another in more than 100,000 cases, but we have no evidence as to the proportion of fatal results, though a few surgeons have published the statistics of their own cases. The present position of the matter is that salvarsan has been proved to be a powerful antisyphilitic agent, that in a large proportion of the cases in which it has been given it has produced no harmful symptoms, but that in a small number of cases severe symptoms have appeared, and in some cases a fatal result has followed. There is evidence to show that in some of these fatal cases at least the death has been due to the too early repetition of the dose, and in other cases possibly some error in the mode of administration has been committed. It is clear that the drug has a very definite value, but it is equally clear that its administration needs the greatest care. It is not improbable that a certain amount of selection of cases will be necessary if the best results are to be obtained, but at present it is hardly possible to say what cases should be excluded from the treatment, though there is some reason to think that nephritis is a contra-indication to the administration.

Annotations.

"Ne quid nimis."

PRESERVATIVES IN MILK AND CREAM.

AS was foreshadowed in an annotation in THE LANCET of Feb. 17th, the Local Government Board, in the exercise of its powers under the Public Health Acts, has drafted regulations prohibiting the use of preservatives in milk and defining the conditions under which preservatives may be used in cream. The regulations are far-reaching in character and apply to all milk and cream sold for human consumption in this country whether produced here or imported from abroad. The Board appears to have been guided in the case of milk by the recommendations of the Departmental Committee, which in 1901 recommended that the addition of preservatives to milk should be made an offence, but in the case of cream the Board has not followed precisely the direction indicated in the Committee's report. The Committee recommended that only boron preservatives should be allowed in cream in an amount not exceeding 0·25 per cent., and as will be shown presently, the draft regulations

as they apply to cream, are more stringent in their requirements. The use of preservatives in milk is prohibited in the following unequivocal terms of Article III.: "1. No person shall add, or order or permit any other person to add, any preservative substance to milk intended for sale for human consumption. 2. No person shall sell, or expose or offer for sale, or have in his possession for the purpose of sale any milk to which any preservative substance has been added in contravention of subdivision (1) of this article." The expression "milk" includes separated, skimmed, condensed, and dried milk, but as the traffic in condensed milk would be seriously impeded if the use of sugar were disallowed it is provided that "neither cane nor beet sugar shall be regarded as a preservative or a thickening substance." It will be remembered that in a report to the Local Government Board in September last year Dr. F. J. H. Coutts [1] showed that there were serious drawbacks to the use, except for temporary purposes, of full-cream sweetened condensed milk as an infants' food, the most objectionable feature being the excess of sugar in relation to other food elements, but the Board in drafting its regulations no doubt deemed it inexpedient to prohibit the sale of a product which, in exceptional cases, may be a useful article of diet. It is the function of educational and not legislative measures to teach those who have the care of the young that although a certain article of food may on occasion be useful, it should not necessarily be used habitually. In the same report Dr. Coutts suggested that the use of condensed skim milk for infant feeding should be prevented, as it implied a slow process of partial starvation, but the Board has not given effect to this suggestion since it would hardly be germane to the principal purpose of the regulations. The restriction placed on the use of preservatives in cream is as follows: "1. No person shall add, or order or permit any other person to add, (*a*) any thickening substance to cream or preserved cream; (*b*) any preservative substance to cream containing less than 40 per cent. by weight of milk fat; (*c*) to cream containing 40 per cent. or more by weight of milk fat any preservative substance other than (i.) boric acid, borax, or a mixture of these preservative substances, or (ii.) hydrogen peroxide, in amount not exceeding 0·1 per cent. by weight, in any case in which the cream is intended for sale for human consumption. 2. No person shall sell, or expose or offer for sale, or have in his possession for the purpose of sale, any cream to which any thickening substance or any preservative substance has been added in contravention of the provisions of subdivision (1) of this article." Dealers in cream, preserved in a manner which does not contravene the above regulation, will be required, by means of labels on the receptacles, to declare that the cream is preserved and to state the name of the preservative. In this matter the regulations are precise, laying down in a schedule the size of the label, which varies according to the capacity of the receptacle, and prohibiting the attachment to any receptacle of a label bearing a trade description which would be likely to mislead a purchaser as to the utility of the preservative substance. In tea shops and other refreshment rooms the cream jugs will not be required to be labelled if in each room a conspicuous notice is affixed indicating that the cream supplied is preserved cream, or if a statement to that effect is printed on the bills of fare. The penalties for offences against the regulations will be those for which provision is made by Subsection (3) of Section 1 of the Public Health Act, 1896, but before the local authority institutes proceedings against any person they will be required to afford him an opportunity of explaining the circumstances in which any irregularity may have occurred. With the exception of the provision relating to the labelling of preserved cream, which takes effect on Jan. 1st, 1913, the regulations will come into force on June 1st next, at the beginning of the warm season.

[1] See THE LANCET, Sept. 16th, 1911, p. 833.

THE STORY OF ANCIENT MEDICINE REVEALED BY GREEK INSCRIPTIONS.

Professor Oehler, of Vienna, has been summarising the Greek lapidary records having reference to medical men in antiquity, with interesting results. The earliest record of the kind as yet copied into the corpus of Greek inscriptions refers to a person named Aineios, an Athenian, who lived in Athens about the end of the sixth century B.C. The most recent text of this category known concerns a medical man named Petros, a citizen of Claudiopolis, and is of the date of 511 A.D. Taking the collection of these inscriptions as a whole, it is found that the term used in them for a physician varies considerably. Instead of the common expression, *ἰατρὸς*, the following variants appear: At Seleucia, in Syria, we find *εἰατρος*; in Cyprus, *ἰατήρ*. A text at Trikka reads *ἰήτωρ*; whilst some Athenian peculiarities are *ειήτήρ*, *ἰητήρ*, and *ἰητρός*. At Beotian Thebes the word *σάκτας* was used. That the profession was held in high favour is proved by its having been assigned to the position of a *τέχνη*, and it was written of as *ἡ ἰατρικὴ ἐπιστήμη*. Public or municipal medical officers, before the Roman imperial *régime*, were called *ἰατροὶ* or *δημόσιοι ἰατροὶ*. They were nominated and elected for one or more years, and were subsidised by their city. By the period of Nero the title *ἀρχιατρὸι* had become common in inscriptions. This word at first was used to denote the royal medical attendant of Hellenic sovereigns in Syria, and it is believed was first applied in Italy to Xenophon of Cos, who was at the court of Claudius. However, for such personages *ἰατρὸς Σεβαστοῦ* was still used. Under the Empire the public medical officer's position appears in some localities to have become hereditary. For an honorarium of 500 to 700 drachmæ the public medical officer had to treat the citizens gratuitously. Both military and naval medical men are spoken of in these memorial inscriptions. A certain Hermias of Cos was employed at Gortyna during the war of 221 to 219 B.C.; and a medical officer to a fleet is referred to in a text discovered quite lately. Some six female practitioners are mentioned in these mementos. Of one of these the record has not yet been edited *in extenso*. Another was evidently much respected, for no less than three texts concerning her are extant. One of the ladies was not only *ἰατρὸς* (or *ἰατρίνη*), but also *μαῖα*. *Apropos* of this, it is singular that no female bears the appellation of simply midwife in these lapidary texts, but among them an inscribed *ex voto* to Eileithyia qualifies two medical men accoucheurs as *μαῖοι*. Eight texts relating to veterinary surgeons should be noted, but Latin inscriptions, especially from the sites of legionary camps, would augment the number of these. Athletic contests at the great games were provocative of many accidents, and so in view of casualties the committees for such sports arranged for surgeons to be in attendance. So, also, the various gymnastic associations and many societies similar to our clubs, or rather to the mediæval guilds, retained medical men for their members. The faculty themselves formed associations and councils. In one instance, at Rhodiaopolis, an enthusiastic member of the profession seems to have established a medical council in his native city or to have convened a congress there. His name was Herakleitos, and he further distinguished himself by composing medical poems. His inscriptional panegyric, therefore, properly entitles him *Ομηρος ἰατριχῶν ποιημάτων*. These contemporary memorials reveal to us other literary prodigies among medical authors

besides those familiar to fame from the classics. Thus, one inscription tells us that Hermogenes of Smyrna composed an Iatrika of 77 books. Another praises Tiberius Claudius Menekrates for writing a medical treatise in 156 books. As nearly all this kind of medical record is honorary it recapitulates all the honours presented to the individuals whom the texts concern, thus showing conclusively not only the high respect which these several members of the medical fraternity enjoyed, but also the lofty esteem in which medical men were held in the Greek and Roman world. We do not here refer to the numerous inscriptions concerning the cures and the cult of medicine in the various Asklepieia, especially at those of Epidauros, Athens, and Cos, because they relate also to the religious aspect of the matter. Many medical men at these shrines express their gratitude to the deity for guidance or for direct intervention on behalf of their patients. The corpus of inscriptions from these sites—which occupied the place of the modern clinics of to-day—is well known. But the colleges attached to them may have been of a more genuinely educational nature than has been hitherto supposed, for an inscription emanating from Ceos refers to a professor as lecturing upon *ἰατρικὴ τέχνη*, which may have meant general physiology. The life-history of the ancients can no longer be adequately written by confining research to the classic authors whose works remain to us, not even if we include the many portions of books recently recovered from among Egyptian papyri. The immense mass of inscriptions must be thoroughly investigated and the information afforded by them utilised, a fact which is better appreciated on the continent than with us.

RHEUMATIC FEVER IN THE LAST DECADE.

AN interesting paper, being the treasurer's prize essay of the Pupils' Physical Society, is contributed to Vol. LXV. of the Guy's Hospital Reports by Dr. Alexander Sandison on the subject of Rheumatic Fever in the Last Decade. The essay is divided into two parts, the first of which is devoted to a historical and critical review of the advances made in the study of acute rheumatism during the period 1900–09. The second part contains an analysis of the cases admitted to Guy's Hospital during the same period. In the first part a careful review of the observations made during the decade upon the relation of micro-organisms to the etiology of the disease is given, especial reference being made to the work of Poynton and Paine. Dr. Sandison concludes that while it is now generally admitted that rheumatic fever is probably an infective condition due to some micro-organism or organisms, the increasing isolation of Poynton and Paine and their supporters from the opinions of other workers suggests that subsequent work will support the views of those who deny the specificity of the micrococcus. He refers with some emphasis to the work of Dr. Horder, who obtained entirely negative results from the examination of the blood of 30 cases of acute rheumatism during life, and in post-mortem examinations of the effusions, vegetations, and other lesions in 16 cases, only found streptococci in five. On the other hand, in 33 examinations of the blood in cases of malignant endocarditis he obtained 28 positive results, in 18 of which streptococci were recognised, many of which might be called diplococci. There is here a possible analogy with scarlet fever, with two clinical types, an ordinary one due to an unknown micro-organism and a malignant form from which a streptococcus can be readily isolated. In other directions Dr. Sandison points out that progress has been but slight The relationship between chorea and rheumatism has been more firmly established; while, on the other hand, the importance of tonsillitis and of the various skin affections, including peliosis rheumatica, as direct manifestations of rheumatism has become less generally accepted, and iritis is not now believed to be of rheumatic origin. He expresses disappointment at the failure to advance in the direction of prevention of rheumatic heart affections, but spoke hopefully of the increasing emphasis which is now being laid upon the importance of the early diagnosis and treatment of the rheumatism of children. In the second part, dealing with the cases at Guy's Hospital, he discusses the 1053 cases of undoubted rheumatic fever which were admitted during the 10 years, representing 3·96 per cent. of the total admissions to the medical wards. Analysis of the cases shows that some variety of heart lesion occurred in at least 50 per cent., chorea occurred in 8·7 per cent., and skin lesions, erythema nodosum, and purpura in 3·9 per cent. In regard to sex, 546 were males and 507 females. Considerations of family history and diathesis are briefly examined. Out of 89 cases in which there were notes of family history, a positive result was found in 18 cases, which is 20·2 per cent. There was a predominance of the incidence of the disease among the dark type, especially those of the dark-brown hair and blue-grey eyes. A lengthy examination is made of the relation between rheumatic fever and weather conditions, and the following conclusions are arrived at. In the presence of increasing sun, temperature, and humidity the disease increases; in the absence of sun and temperature, but with high humidity, the disease continues for a while, but falls rapidly as the humidity declines; easterly winds are conducive to the disease in the presence of rising sun and temperature in spite of declining humidity. In other words, sun and temperature, aided by east winds, produce the disease and spread it abroad, while humidity maintains it. The subject of rheumatic nodules is next considered. Twenty-five cases were observed, of which 8 died—that is, 32 per cent. All of them presented heart disease in one form or another. Excluding one rather unusual case, there were 12 cases in males with an average age of 13¼ years, and 12 in females with an average age of 10½. Salicylism was noted in 17 cases of the total number of cases of rheumatic fever—namely, in 1·6 per cent. It appears to occur much more frequently in adults than in children or in young people. Dr. Sandison has afforded an interesting and useful *résumé* of the present state of our knowledge in regard to this disease. He points out that much yet remains to be done in the elucidation of its etiology, pathology, and treatment. His paper is of value in indicating the directions in which future work may proceed.

INFANT MORTALITY.

A LECTURE delivered at the Galton Eugenics Laboratory of University College, London, by Dr. M. Greenwood, jun. (of the Lister Institute of Preventive Medicine), threw some interesting light on this subject. The lecturer pointed out that public opinion respecting the possibility of influencing the infant death-rate by administrative action had greatly changed during the last 100 years, the prevalent belief being that the great majority of deaths in the first year of life were due to preventable causes. Apart from the supposed ill-effects of the industrial employment of mothers (a subject discussed by Miss Elderton in a previous lecture of the same series) three factors had been associated in the public mind with the rate of infant mortality—viz., the birth-rate, the prevalence of artificial feeding, poverty. It is usually supposed—and the supposition was again adopted in the recent Local Government Board report on infant mortality—that the connexion between the birth-rate and the infant death-rate was due to the higher fertility of the poorer classes and might be regarded as of secondary importance. In view of

the probability that stocks characterised by a high proportion of heritable defects seem more fertile than the average—a result largely attributable to systematic limitation of families among the middle and superior artisan classes—the current belief as to the nature of the association between a high birth-rate and a high infant death-rate requires critical examination. But, as Dr. Greenwood pointed out, the high mortality of bottle-fed children may, in part, be a consequence of some inherited weakness of constitution. He described the results of an analysis of data, published by Dr. Groth and Dr. Hahn, collected in the rural districts of Bavaria, and said that while he was of opinion that these data were not free from objections, he believed that the following results could be accepted—viz.: (1) both the birth-rate and the prevalence of bottle-feeding were more closely associated with the infant death-rate than was the prevalence of administrative poverty, as indicated by the proportion of inhabitants in receipt of some form of public assistance; (2) the association of the birth-rate and the infant death-rate was not secondary to an association between the latter and poverty. Dr. Greenwood was of opinion that the association between the birth- and infant death-rates was no mere fortuitous occurrence, but might find its real explanation in the artificially engendered difference of fertility between normal and pathological stocks. In this connexion the work of Dr. David Heron was, in the lecturer's view, of great significance. In the days prior to general limitation of family by the more prosperous classes 50 years ago the correlation (deduced from London statistics) between the birth- and infant death-rates was actually negative. By 1901 it had become large and positive. The general conclusion come to was that the effects of administrative reforms upon the infant death-rate were in danger of being exaggerated. Any such exaggeration was calculated to do a great deal of harm, because expectations were raised which could not be realised, and the consequent reaction in the public mind might lead to general indifference towards the subject of sanitary administration. At the present time, he thought, public health matters were discussed with a regrettable absence of the critical spirit and a large infusion of personal or party bias.

THE MYSTERY OF $C_{10}H_{16}$.

$C_{10}H_{16}$ is one of the most interesting molecular groups known to chemists, and its careful study promises to lead to developments of the utmost utility and importance to the world. But so far it has baffled man to find out, except perhaps in a few instances, how Nature moulds these groups, to form an ever-varying number of substances familiar to everyone. $C_{10}H_{16}$, for example, is the foundation of rubber, but no chemist yet has been able to handle $C_{10}H_{16}$ so as to persuade it to change from a simply constituted oil into the well-known solid, enduring, resilient substance rubber. And yet it is known quite definitely that indiarubber is practically speaking a multi- or poly-terpene, a kind of consolidated turpentine, which is the most familiar example of a terpene, the molecular formula of which is $C_{10}H_{16}$. But $C_{10}H_{16}$ is the important constituent of a number of well-known essential oils, as, for example, lemon, lime, lavender, bergamot, celery, laurel, parsley, sage, and thyme, and yet in spite of this molecular identity their properties are, of course, very different. Turpentine, for example, can hardly serve the purpose of a delicate perfume upon the handkerchief is the same way that, say, lavender does. The fact that $C_{10}H_{16}$ is a group common to both clearly does not justify the conclusion that they are available for a similar service. Modern conceptions of the constitution of matter are leaning strongly again to the view that, after all, there is but one prime material out of which all the elements, dissimilar as well as similar, as we know them, have been moulded by processes of strain, temperature, pressure, and so forth from one primordial stuff; and it is conceivable similarly that $C_{10}H_{16}$ can be made the foundation of a series of fabrics differing widely from one another but whose primordial substance after all is $C_{10}H_{16}$. Amongst modern synthetic triumphs is camphor, and here once more we encounter the $C_{10}H_{16}$ group, which is not surprising, since the starting-point of synthetic camphor is turpentine. Recently, again, it has been announced that synthetic rubber has been successfully obtained. Whatever the method is, it is pretty safe to predict that the starting-point of it must be $C_{10}H_{16}$ in some form or another, since rubber is a mere multiplication of this group $(C_{10}H_{16})n$. It is interesting to notice that both turpentine and rubber are natural exudations, the former from coniferous trees and the latter from the latex-yielding trees of South America, Africa, and India. It is evident that Nature elaborates many useful things on the basis of $C_{10}H_{16}$, and modern developments are compelling man to take a deep interest in the constitution of hydrocarbons of that type.

PAROXYSMAL TACHYCARDIA FROM A LESION OF THE AURICULO-VENTRICULAR BUNDLE.

MODERN pathology teaches that lesions of the auriculo-ventricular bundle prevent, partially or completely, the passage of the contraction wave from the auricles to the ventricles, and so produce the form of bradycardia known as heart-block. At a meeting of the Société Médicale des Hôpitaux of Paris recently M. A. Cade and M. J. Rebattu reported a case in which, on the contrary, a lesion of the bundle appeared to cause paroxysmal tachycardia. A woman, aged 71 years, was admitted into hospital. In the previous year she had a "stroke," which was followed by hemiplegia which gradually regressed. During this period she was an in-patient at the Hôtel Dieu, where typical attacks of paroxysmal tachycardia were observed. They began 15 years previously. The attacks commenced suddenly and were marked by a feeling of suffocation, violent palpitation of the heart, and præcordial pains. Often there were associated digestive troubles—constipation, anorexia, nausea, salivation, and furred tongue. The pulse rose to from 170 to 200, but was regular. Auscultation showed well-marked embryocardia. The jugular veins were distended and pulsated visibly. The face was first pale, then sallow. Often the right hypochondrium was tender. The urine was scanty. Some attacks were accompanied by albuminuria, slight œdema of the legs, and pulmonary congestion. The attacks usually lasted some days, and could be cut short by vomiting, spontaneous or induced by the administration of ipecacuanha. In the intervals the pulse was 60 or 70, and auscultation of the heart revealed nothing. The radial arteries were tortuous, the arterial tension was raised, and aortic pulsation was visible in the suprasternal fossa. The patient died suddenly during an attack. The necropsy showed pleural adhesions and old tubercles at the apices of the lungs. The kidneys were of normal volume, their surfaces were slightly granular, and their capsules were adherent. The liver was slightly indurated. The heart was large and weighed 425 grammes. There were some patches of atheroma on the aortic valves, and the mitral valve and aorta were very atheromatous. In the right lenticular nucleus was an ochreous focus, the remains of an old hæmorrhage pressing on the internal capsule. There were no lesions of the mediastinum to suggest pressure on nerves. Microscopic examination showed well-marked lesions of the auriculo-ventricular bundle. It was in great part converted into fibrous tissue, and the muscular fibres which remained were

degenerated. Further, the bundle showed signs of recent inflammation in the form of an abundant infiltration with leucocytes. The pathology of paroxysmal tachycardia is obscure; no constant changes have been found to account for it in the cardiac muscle, ganglia, or nerves. It has generally been attributed to some disorder of cardiac innervation. When bradycardia was shown to be due to destruction of the auriculo-ventricular bundle the question naturally arose, Is paroxysmal tachycardia due to its irritation? The first observations on the point were made by Dr. James Mackenzie, who found in one case obliteration of the nutritive artery of the bundle with alteration of the latter, and in another fibrosis of the sino-auricular node. In a case recorded by Vaquez and Esmein a recent lesion—infiltration of the bundle with embryonic cells—was found. These "choked" the muscular fibres, causing degeneration of some of them. M. Cade and M. Rebattu concluded that paroxysmal tachycardia is due to abnormal irritability of the auriculo-ventricular bundle, which may be purely functional or provoked by lesions. In favour of this view was the fact that in some cases in the intervals between the attacks extra-systoles originating in the auriculo-ventricular bundle had been observed. Paroxysmal tachycardia might thus be regarded as an aggregation of extra-systoles. Moreover, a lesion which irritated the bundle might be expected in time to diminish or abolish its conductivity and produce bradycardia. Of this there was clinical evidence, for cases had been recorded in which tachycardia has ended in bradycardia or alternated with it.

RAT-BITE DISEASE.

THE curious condition known as rat-bite disease, or rat-bite fever, attracted some attention in this country two years ago, when Dr. T. J. Horder published an account of three cases in the *Quarterly Journal of Medicine*, and Dr. G. S. Middleton described a fourth in these columns.[1] Up to that time almost the only researches into the disease had been carried out in Japan, where it would seem that opportunities of clinical observation are much more numerous than in any other civilised country. In a critical review of the subject by Dr. F. Proescher, which is published in the last volume of *International Clinics*, a full summary of the now somewhat extensive literature is given, together with the account of a case which was investigated by him with exceptional care and thoroughness. Rat-bite fever is an infective disease *sui generis* transmitted through the bite to human beings; it is probably a primary disease of the rat, comparable with hydrophobia, which is primary in canines. The bite is not constantly, but is very often, followed by the disease, which is endemic only in Japan and sporadic in China; elsewhere it is rare, or at any rate seldom recognised. Experimentally Dr. Proescher has transmitted the disease to animals (guinea-pigs), and he states that Ogata has done the same. The latter has described an organism allied to the neosporidia, which he thinks is the specific cause of the disease; Dr. Proescher did not encounter it, but found the excised tissues from around the bite upon his patient to be full of an organism somewhat resembling that of hæmorrhagic septicæmia. He also found the same organism in smaller numbers in some of the guinea-pigs to which he succeeded in communicating the disease clinically. Middleton's diplococcus he regards as a secondary infection, and he makes the same suggestion with regard to Ogata's protozoon, subject to the proviso that the Japanese fever differs in several respects from that in other countries and may not be the same disease. The incubation period of rat-bite fever is variable, with or without prodromata. The initial symptoms are usually chills, pyrexia, and painful inflammatory reaction at the site of the bite, which has generally healed. Vesicles and pustules then form at this site and occasionally the tissues become gangrenous. A lymphangitis develops, with swelling of the proximal glands. The constitutional symptoms include malaise, weakness, nausea, headache, anorexia, thirst, articular and muscular pains, sweats, and in rare cases delirium, hallucinations, coma. Death sometimes results, but only after several months of progressive cachexia. The liver and spleen are not enlarged, nor has icterus been reported; loss of reflexes, with sensory and motor paralysis, is often present in serious cases. The treatment recommended includes cauterisation and disinfection of all recent rat-bites, and in the case of the developed disease excision of the wound or cicatrix. Other symptoms are to be treated as they arise, for at present there is no specific remedy; a liberal and nourishing diet is an essential part of the treatment.

[1] THE LANCET, June 11th, 1910, p. 1618.

AMŒBIC DYSENTERY.

IN the biological laboratory of the Bureau of Science at Manila (*vide* the *Philippine Journal of Science* for October last), Dr. Ernest Linwood Walker has recently been making a comparative study of the amœbæ discovered (1) in the water-supply of the city of Manila, (2) in the intestinal tract of healthy individuals, and (3) in the alimentary canal of patients attacked by amœbic dysentery. Some of the results of this important inquiry help us towards a better understanding of the etiology of this disease. It was found by Dr. Walker that the amœboid organisms in the town's public water-service belonged to the genus amœba (Ehrenberg), as also did those which could be cultivated from the bowel discharges of healthy persons, or of those suffering from amœbic dysentery. The cultivable species of the genus amœba are not, however, according to this investigator, parasitic in the human intestinal tract; when obtained in culture from that source they are probably, he thinks, derived from cysts of amœbæ which have been ingested with water or food, and which have passed through the alimentary canal. The amœboid organisms which are parasitic in the intestine of man belong to a distinct genus, the entamœba (Cassagrandi and Barbagallo); they are, in Dr. Walker's opinion, strict obligatory parasites, and are incapable of multiplication outside the body of their host, nor can they be cultivated on Musgrave and Clegg's medium. One non-pathogenic species of the genus entamœba is recognised by Dr. Walker—namely, E. coli (Schaudinn)—which includes E. nipponica (Kordzumi), and which develops cysts containing eight nuclei. Another species of entamœba—namely, E. histolytica (Schaudinn), is presumed to be pathogenic, and includes E. tetragena (Viereck); it develops cysts containing four nuclei. A differential diagnosis of an infection with E. coli and one with E. histolytica can, according to Dr. Walker, be made with the microscope, and such infection in either case must always come directly or indirectly from a previous case. Water or uncooked food can transmit amœbic dysentery only after contamination with fæcal matter from a person suffering from the disease. It is important in this connexion to note that infection with E. histolytica may persist for an indefinite period after the symptoms of amœbic dysentery have disappeared, during which time the resistant encysted entamœbæ may be passed in large numbers in the stools and in this way become a grave source of infection to other persons. Such instances are to be regarded as carriers of amœbic dysentery, and are comparable with the recognised carriers of enteric fever or cholera. The prophylaxis of amœbic dysentery is sufficiently indicated in what has been already stated. The measures to be employed should obviously be the same as those which

are employed to prevent the spread of other specific infectious diseases of the intestinal tract, more particularly enteric fever and cholera. Dr. Walker is now engaged in carrying on an experimental study of the parasitism and pathogenicity of the species of the genera amœba and entamœba established by his present study. The results of this further research will be presented in another paper, and will in all probability be published in a future number of the *Philippine Journal of Science*.

CURIOUS CASES OF INCOMPATIBILITY.

IN a recent issue of an American pharmaceutical journal attention is drawn to the fact that an incompatibility between a medicine given internally and one applied externally may cause undesirable epidermal manifestations. Reference is made to a case in which hydrogen peroxide was applied externally, while potassium iodide was given internally. The result was a severe burning of the skin, the cause of which was not discerned for some little time. In another instance a colourless tincture of iodine, taken internally, in conjunction with an ointment of ammoniated mercury, externally applied, caused severe irritation of the skin, which was attributed to the toxic action of mercuric iodide. Other illustrations might be given of the importance of avoiding such cases of incompatibility. Thus, sulphur given internally and a solution of mercury used externally may be expected to cause a deposit of black mercuric sulphide in the skin These instances are of great interest to physicians as they afford an explanation of phenomena which might sometimes be attributed to idiosyncrasy or some other cause, except the right one. Within the last few months an interesting case arose at St. Paul, Minn. A lady had used a certain advertised face-cream for the purpose of removing freckles, and she was horrified to find that her face became variegated in colour from yellow to brown and then to black. Since many creams of this nature contain some form of mercury it is probable that the trouble was caused by a chemical reaction between the ingredients of the cream and some medicinal substance she may have been taking at the same time. These illustrations emphasise the danger of indiscriminate self-medication; they further show that care should be taken not to use mercurial creams when undergoing certain courses of internal medication. The apparently harmless sulphur lozenge or compound licorice powder may cause much chagrin and discomfort, if not danger, when taken into the system at a time when a favourite brand of toilet cream is being used to beautify the complexion.

AORTIC ANEURYSM MISTAKEN FOR ASTHMA.

IN the *Interstate Medical Journal* for January Dr. Solomon Solis Cohen has published a note on two cases of aortic aneurysm, in which the unusual mistake was made of diagnosing asthma. Both patients were syphilitic labourers who were suddenly attacked with dyspnœa, which was the only symptom. The ordinary signs of aneurysm—pulsation, thrill, and bruit—were wanting. There was constant dyspnœa with paroxysms of increased distress accompanied by sonorous and sibilant râles. The patients were sent into hospital with the diagnosis of asthma. They sat upright in bed, labouring for breath, with marked suprasternal recession in one case and supraclavicular recession in the other. There was laryngeal stridor; in the former case loud, and both inspiratory and expiratory; in the latter, low and expiratory only. In both cases the vessels of the neck throbbed violently and the jugular veins were much distended. In the former case there were attacks of syncope. In both cases Dr. Cohen made at sight the diagnosis of obstructive dyspnœa, possibly aneurysmal. Careful physical examination revealed limited dulness beneath the manubrium sterni—in the former case, of about the size of a shilling; in the latter, of a dollar, and therefore extending somewhat to the right and left of the bone. In neither case was any thrill, bruit, or pulsation detected, nor did the laryngoscope show anything. In both cases a skiagram revealed a shadow above the heart, which was interpreted as a dilated aortic arch pressing upon the root of the trachea. In the former case the shadow was small and circular; in the latter, large and somewhat pear-shaped. The former patient died, and the necropsy showed a sac more than an inch in diameter, of which tough clot and the anterior wall of the trachea formed the posterior wall, while it communicated by a small opening with the transverse arch. What makes the cases worthy of record is that sudden dyspnœa was the sole symptom; the ordinary signs of aneurysm were wanting; and incidentally to the constant dyspnœa paroxysms of increased distress, with wheezing and râles, misled the medical attendants to a diagnosis of asthma. But the suprasternal recession and stridor, indicating obstruction of the larynx or trachea, were incompatible with asthma. The possibilities were mediastinal growth or gumma, enlarged bronchial glands, peritracheal abscess, and aneurysm pressing on the air passages.

THE TREATMENT OF GONORRHŒAL CONJUNCTIVITIS WITH STEAM.

A NOVEL and somewhat drastic method of treating gonorrhœal conjunctivitis has lately been advocated by Dr. W. Goldzieher in the *Wiener Klinische Wochenschrift* (November, 1911). The procedure is based on the facts that the gonococci are rapidly killed by a temperature slightly exceeding that of the normal body temperature, and that they are situated in the epithelial layer of the conjunctiva, their presence in the subepithelial layer being of rare occurrence. As compared with the mucous membrane of the male urethra, the conjunctiva is superficial and easily exposed, and it therefore lends itself to local treatment by heat. Dry heat is liable to injure the cornea by the withdrawal of fluid, and steam is therefore preferable. It was generated by electricity in a boiler small enough to be as easily manipulated as any other instrument for operations on the eye. Below the tube through which the steam escaped another tube was fitted to catch the drops of condensed steam which would otherwise have scalded the patient's face. The temperature of the steam impinging on a screen at a distance of 4 centimetres from the mouth of the tube was found to be 113° F. This temperature causes considerable pain, and cocaine is valueless, for it has no influence on the sensations of heat and cold. After a while, however, the treatment becomes so painless that even children stand it easily. No ill-effects resulted from the treatment, but some difficulty was experienced in everting the swollen and brawny upper eyelids, which sometimes required the application of iced compresses to reduce the infiltration. The delay thus caused is not, however, serious, for corneal infiltration or ulceration seldom occurs at this stage. As soon as the eversion of the eyelids is practicable, the conjunctival sac is first syringed with a solution of permanganate of potash, and it is then dried with a strip of gauze, after which the steam is applied. When there is much chemosis, the ocular as well as the palpebral conjunctiva should be steamed, great care being taken to avoid injuring the cornea. The skin in the neighbourhood of the eyes is protected from the steam by layers of linen or wet gauze. In the course of three months 15 cases were thus treated. All these were severe, and in 5 cases ulceration of the cornea existed at the commencement of the treatment. The gonococcus was invariably present, and with the exception of a

boy, 7 years old, all the patients suffered from urethral or vaginal gonorrhœa. The 10 patients whose corneas were not involved at the commencement of the treatment made a rapid and complete recovery, the chemosis and discharge having practically ceased in four days' time. In the case of the 5 patients whose corneas were already involved, the conjunctivitis was cured and was no longer a source of infection to others; and in 1 case complete recovery of the cornea was also effected. Although the steam rapidly reduces the discharge, some conjunctival swelling may persist for a time, as the steam tends to relax the blood-vessels and thus cause passive hyperæmia. It is unnecessary to reduce this swelling by the application of silver nitrate, for syringing with permanganate of potash is sufficient. Comparing the above method with the silver nitrate treatment, Dr. Goldzieher points out that the latter is very imperfect, as it forms a deposit in the epithelium which becomes impermeable, and thus prevents the further action of the nitrate on the deeper layers of the conjunctiva. The gonococci also lurk in epithelial crypts and in the upper fornix where they are difficult to attack with silver nitrate. He, therefore, concludes that his treatment is the better of the two, although it requires considerable technical dexterity. Possibly also cases may exist which are refractory to it.

THE joint meeting of the Surgical, Medical, and Anæsthetic Sections of the Royal Society of Medicine to discuss Partial Thyroidectomy under Local Anæsthesia, with Special Reference to Exophthalmic Goitre, held on Feb. 27th, has been adjourned to a special meeting on Tuesday, March 5th, at 5.30 P.M., at the Royal Society of Medicine, 15, Cavendish-square. Dr. W. J. McCardie, president of the Anæsthetic Section, will be in the chair. The following will take part in the debate: Mr. Charters Symonds, Mr. A. E. Barker, Mr. Donald Armour, Mr. Walter Edmunds, Dr. J. Blumfeld, Mr. C. H. Fagge, Dr. H. J. Scharlieb, Dr. G. A. H. Barton, Mr. Rupert Farrant, and Mr. James Berry.

THE National Organisation Committee for the Berlin Congress of Obstetrics and Gynæcology, to be held in September next, have elected Sir Alexander Russell Simpson, Dr. Macnaughton Jones, and Dr. Herbert Spencer as delegates for the United Kingdom. Dr. Macnaughton Jones has also been appointed *rapporteur* on the subject of the Surgery of the Peritoneum.

Sir Richard Douglas Powell is giving two emeritus lectures to-day, Friday, March 1st, and on Friday, March 8th, at 3 P.M., in the small theatre of the Middlesex Hospital Medical School on the Medical Aspects of Life Insurance.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee of the Medical Sickness, Annuity, and Life Assurance Society, was held at 429, Strand, London, W.C., on Friday, Feb. 16th. There were present: Dr. F. de Havilland Hall, in the chair; Dr. F. C. Martley, Dr. J. Pickett, Dr. Frederick S. Palmer, Dr. W. Knowsley Sibley, Dr. F. J. Allan, Dr. M. Greenwood, Dr. H. A. Sansom, Mr. J. Brindley-James, Mr. F. S. Edwards, Mr. E. Bartlett, Dr. J. W. Hunt, and Dr. J. B. Ball. The winter season always produces a considerable excess of sickness claims over the summer-time, and in the early part of this year the Medical Sickness Society has experienced a large number of these claims. But although numerous these claims have been for the most part of unusually short duration and have not caused any serious addition to the amount usually expended in this way. The society's business continues to be very successful and the invested reserves now amount to over a quarter of a million sterling. Prospectuses and all further particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery-lane, London, W.C.

AN EXAMINATION OF THE MEDICAL PROVISIONS OF THE NATIONAL INSURANCE ACT.

BY WILLIAM A. BREND, M.A. CAMB., M.B., B.SC. LOND.,
OF THE INNER TEMPLE, BARRISTER-AT-LAW; LECTURER ON FORENSIC MEDICINE, CHARING CROSS HOSPITAL.

IV.[1]

The Insurance Act and Public Health.

As some of the fundamental objects aimed at by the Insurance Act are the reduction in the total amount of disease throughout the country and the establishment of more hygienic conditions among the working classes, it is desirable that the scheme should coöperate with the public health service. Several provisions arrange for this. The association of the Local Government Board with the Commissioners in the administration of sanatorium benefit is an instance. Another is furnished by Section 60, which requires an Insurance Committee to make such reports as to the health of insured persons as the Insurance Commissioners, after consultation with the Local Government Board, may prescribe, and to furnish statistical and other returns. It further empowers the Insurance Committee to make such other reports on the health of insured persons and the conditions affecting them as they think fit. The Insurance Commissioners are required to send copies of these reports to the various county and other councils which appear to be affected or interested. Presumably arrangements will be made for the compilation of reports by persons specially qualified. There is no authority in the Act for imposing the duty of preparing them upon the medical practitioners who are giving attendance and treatment under medical benefit.

The Insurance Committee is also required to make such provision for the giving of lectures and the publication of information on questions relating to health as it thinks necessary or desirable, and may, if it thinks fit, for that purpose make arrangements with local education authorities, universities, and other institutions. This may be a useful provision for disseminating knowledge of hygiene among the working classes.

With a view to promoting co-operation between Insurance Committees and county councils, &c., Section 60 (2) empowers any medical officer of health at the request of an Insurance Committee, and with the consent of the council by whom he is appointed, to attend meetings of the committee and give such advice and assistance as is in his power.

Perhaps the most important provisions from the public health point of view are those contained in Section 63, dealing with the reduction of sickness from preventable causes. Where it is alleged that there is an excessive amount of sickness among insured persons due to the conditions or nature of their employment, or to bad housing or insanitary conditions in any locality, or to an insufficient or contaminated water-supply, or to neglect on the part of any person or authority to observe or enforce the provisions of any Act relating to the health of workers in factories, workshops, mines, quarries, or other industries, or relating to public health, or the housing of the working classes, a claim may be sent to the person or authority in default, for payment of the extra expenditure incurred in consequence. Failing the settlement of such claim an inquiry may be held by a person appointed by the Local Government Board, and if at such inquiry it is shown that the amount of sickness has (1) during a period of not less than three years before the date of the inquiry; or (2) if there has been an outbreak of any epidemic, endemic or infectious disease, during any less period; been in excess of the average expectation of sickness by more than 10 per cent., and the sickness was due to any such cause as stated, the person, company, or local authority responsible is required to make good the extra expenditure which has been caused by the neglect. The effect of these provisions in stimulating negligent local authorities to an efficient discharge of their public health duties may be of considerable value.

But the effect of the Insurance Act upon public health

[1] Articles I., II., and III. were published in THE LANCET of Feb. 10th (p. 383), 17th (p. 447), and 24th (p. 524).

may not be confined to these matters with which its provisions directly deal. An entirely new situation is created from which various evils afflicting the community must be viewed afresh. Take, for example, the question of State action to reduce the transmission of syphilis. It is recognised that the harm done by this scourge is second only to that resulting from tuberculosis itself, and as far back as 1904 the Committee on Physical Deterioration recommended that an exhaustive inquiry should be made into the extent of the malady and the steps that might be taken to arrest its progress. But nothing as yet has been done. It is, of course, a difficult matter to deal with, and the social and moral interests involved demand the fullest consideration. But as the State has now made itself responsible for the treatment of these diseases among insured persons, no fresh principle is involved in instituting such preventive measures as are practicable and desirable. If the new methods of treatment of syphilis should prove to possess all that is claimed for them, the administrative difficulties will be sensibly lightened.

It is to be hoped, too, that the acceptance by the State of these additional responsibilities of a medical character will bring into prominence the necessity for coördination among the various Government departments charged with the administration of matters demanding medical knowledge. At present there are separate medical staffs in the Local Government Board, the Home Office, the Board of Education, the Registrar-General's Office, and other departments, each independent and uncoördinated with the others. There is not even uniformity in so fundamental a matter as the classification and nomenclature of disease. Different departments divide the country up into different areas, so that for local purposes the value of their statistics is seriously diminished. Specialisation of function leads to neglect of interests on the one hand and overlapping on the other. In 1910 four separate departments of State dealt specially with tuberculosis in their reports and three with infant mortality. Ardent reformers have long dreamed of the establishment of a public health department which should manage all the various medical services now scattered through so many offices, and have at its head a Minister of Cabinet rank. The realisation of such a project is brought sensibly nearer by the Insurance Act.

The Future of Medicine under the Act.

A note of warning has been sounded by Sir Clifford Allbutt concerning the influence of the Insurance Act upon the future of medicine. In the *Times* of Jan. 3rd the eminent professor called attention to the fact that many of the men who are now entering medical practice are trained in highly scientific methods for the diagnosis and treatment of disease. They are versed in the new pathology of the blood; can make bacteriological examinations; investigate the morbid characters of secretions; and employ with skill the instruments of precision which science has given to medicine. Sir Clifford Allbutt points out that modern treatment depends increasingly upon accuracy of diagnosis which can only be attained by the use of such methods. He takes as an instance the diagnosis of a syphilitic aneurysm in the chest, which has been recognised by a laryngoscopic examination of the throat revealing paralysis of a vocal cord, and confirmed by the performance of a Wassermann test. Such proceedings demand time and money, and he asks if they are to be denied to the poor countryman who is able to do some work and cannot spend all his time in a hospital.

Sir Clifford Allbutt writes as though these advantages were at present at the service of the working-class, which is certainly very far from being the case. No medical man would attempt to defend the conditions under which much of the medical attendance among the poor is given. And is his view justified that the conception of medical treatment in the Act is the old-fashioned one of the village club which prescribes drugs and mixtures for all diseases? Do not the clauses in Section 16, empowering the Insurance Commissioners to retain certain sums of money to be applied in accordance with their regulations for the purpose of research, bear witness to the fact that the development of the scientific side of medicine has not been lost sight of? The amount available under these clauses will be about £60,000. The same may be said of the sections already quoted, providing for the giving of lectures and linking the scheme up with the universities and other educational centres.

But looking at the matter from a broad point of view, is it likely that so important a consideration will be neglected in a service which contains representatives of the medical profession upon practically every governing body? It is, indeed, essential in order to secure the objects aimed at by the Act, that the most modern and complete methods of diagnosis and treatment should be available, and in the long run their provision will make for economy. The matter is undoubtedly one which lies very much in the hands of the profession itself. Only medical men can judge what is required, and it is for them to formulate their demands. The lay authority which deliberately ignored the expressed opinion of the profession, that the service did not provide for up-to-date methods of diagnosis, would incur a heavy responsibility. It would be out of place here to consider what should be provided or how it should be done, but one suggestion may be put forward. Many of the special methods of investigation require a laboratory for their performance. There is nothing in the Act to prevent the establishment by the Commissioners in every district of a clinical research laboratory, whether in association with an anti-tuberculosis dispensary or not. In these laboratories local practitioners could either make their own investigations or have them performed for them by skilled pathologists.

The "Six Points."

Although the situation as regards the "six points" has been modified it is worth while bringing forward some considerations respecting them, since the opinion is largely held that they should have been embodied in an Act of Parliament or guaranteed by the regulations before further steps were taken by the profession. Perusal of the six points soon leads to the conclusion that such a course as that proposed could not be followed until the meaning of some of them at least has been much more clearly defined. Indeed, the impression is created that they were never intended to become statutory in their present form, but merely to serve as a basis for discussion.

The first is the demand for "an income limit of £2 a week for those entitled to medical benefit." It is clear that this does not express what the profession really wants. There is no objection to a person with any income receiving medical benefit so long as it takes the form of a cash contribution to one possessing means over a certain limit. It is the medical treatment of such a person at a fixed fee that is resented. The administrative difficulties in the way of dealing with this matter by Act of Parliament have probably been overlooked. No time over which the average is to be calculated is specified. Suppose a man is working for one period for one employer at a certain rate, is out of work for a time, and then works for another at a different rate, upon what principle is his weekly income to be calculated? What, moreover, is income? Are the earnings of a wife or child to be included, or the rent received from letting a room to a lodger? How is the information to be obtained from illiterate persons? The clerical staff required to make these assessments and the expense of so doing would be enormous.

The above difficulties apply with far less force to the modified powers of fixing an income limit given to the Insurance Committees. There is a great deal of difference between the rigidity of an Act of Parliament and the elasticity of regulations which can be modified according to person and circumstance. In some cases, for instance, medical committees may be content to accept average wage instead of income, an easier thing to assess. In other cases they may be satisfied with a simple declaration by each insured person, accompanied by a right on the part of the medical committee to investigate the circumstances of any person who is believed to have an income exceeding the amount agreed upon. It may be said that such a right is all it is sought to embody in an Act, but then it ceases to be the "point," and the demand is that the point shall be agreed as a preliminary to discussion.

Free choice of doctor and administration of medical benefit have been considered.

The fourth point requires the method of remuneration of medical practitioners adopted by each Insurance Committee to be according to the preference of the majority of the medical profession in the district of that committee. The same result can be achieved by the profession without further action either by Parliament or the Commissioners. In any district the practitioners on the panel can pool the amount or

amounts received from the Insurance Committee and distribute the total among themselves upon any principle they please. Such a system is in force in some parts of Germany and is said to work satisfactorily.

The fifth point runs, "Medical remuneration to be what the profession considers adequate having due regard to the duties to be performed and other conditions of service." The briefest consideration will show that this requires a great deal of discussion before it could be incorporated in an Act of Parliament or in regulations. What, for this purpose, is the profession? Does it mean every man on the Medical Register, or only those who are in practice, or those who are going to undertake medical treatment and attendance under the Act? How are the duties and conditions to be known until the regulations are framed? What meaning is to be attached to the word adequate? Finally, how can any scheme with financial provisions be based upon so vague a foundation as that "remuneration is to be adequate"? In a draft amending Bill which has been published this point has been dropped and a minimum capitation fee named instead. But there is no evidence that this represents the opinion of the "profession," or that it is "adequate."

Similar criticisms apply to the last point, which asks for "adequate" medical representation on the various controlling authorities.

The position is now governed by the resolution of the Representative Meeting on Feb. 21st, instructing the Council to require that "the minimum demands of the British Medical Association be embodied in the regulations to be issued by the Commissioners in such a manner as shall be effectual and permanent, with a view to having the same embodied in an amending Act." With this must be coupled the resolution providing for medical representatives to be appointed on the Advisory Committee which is to assist the Commissioners in framing the regulations. The significance of the change from "six cardinal points" to "minimum demands" in the first resolution is not quite clear, and it is impossible to tell from the published report of the meeting which of the numerous resolutions of varying importance and embodying new as well as old principles are to be regarded as containing minimum demands, and which are not. Until this is determined, criticism must be withheld.

Dispensing.

But one new principle deserves considering on its merits, without prejudice to the question of its inclusion in the minimum demands. This is contained in the resolution:—

> That dispensing, as hitherto, should be done or arranged for by the medical practitioner for his own patients should he so desire, and paid for at the scale of tariff rate agreed upon for pharmacists by the Pharmaceutical Society.

The section in the Act dealing with dispensing by medical men is contained in 15 (5) ii., which runs: "Except as may be provided by regulations made by the Insurance Commissioners no arrangement shall be made by the Insurance Committee with a medical practitioner under which he is bound or agrees to supply drugs or medicine to any insured persons." It will be seen that while the prohibition is general the Commissioners can modify it by regulation. Whether they can go so far as to permit dispensing by every practitioner who wishes to do so is open to question.

Drugs and medicines are to be provided by persons and firms who have agreed to do so according to such scale of prices as may be fixed by the Insurance Committee under regulations made by the Commissioners. There is nothing in the Act requiring the Insurance Committees or Commissioners to agree with the Pharmaceutical Society, and there has been no published intimation that the Society would accept the duties imposed upon it by the above resolution.

The value of retaining the right to dispense has perhaps been exaggerated. In computing the amount he will receive out of an inclusive capitation fee, a medical man is apt to deduct the amount which will go to the chemist, and forget to add his own saving on drugs. What will really be lost is the retail chemist's profit, and this is not likely to be excessive. Against this must be placed the work and time that will be saved. Moreover, dispensing under the Act will not be quite so simple as in private practice. A Government department spending public money must employ business methods, and presumably some system of requiring vouchers, &c., for expenses will be established. This will necessitate the keeping of separate dispensing accounts for insured and private patients.

Perhaps the most important consideration is not in relation to the Act but to the position and status of the profession in the future. The evils resulting from unqualified practice have been repeatedly pointed out, and one result of the Insurance Act will be to strengthen the position of the profession in demanding that this abuse be suppressed. One of its most insidious forms is prescribing by chemists. If the profession, in the matter of dispensing, places itself in precisely the same position as retail chemists, it will weaken its demands that the latter shall not undertake the functions of doctors.

Other Suggestions.

In the course of these articles some suggestions have been made of provisions which might reasonably be incorporated in the regulations. It may be convenient to summarise these:—Every insured person, whether a member of an approved society or deposit contributor, to be medically examined before being accepted for treatment at ordinary rates. Special remuneration to be paid for the treatment of bad lives, and for operations, consultations, and other "extras" by agreement. A special fee to be paid to medical men called in under the Midwives Act of 1902. Medical attendance and treatment not to include the giving of certificates for the purpose of administration of sickness and disablement benefit. Medical practitioners to be remunerated from sanatorium benefit for the special treatment of cases of tuberculosis. All complaints of unsatisfactory attendance by medical practitioners on the lists to be submitted in the first instance to the medical committees. The committees also to have the right of investigating cases of alleged malingering by insured persons. Facilities to be given for the application of modern methods of diagnosis and treatment. Patent and proprietary drugs not to be prescribed.

The Medical Profession and the State.

Whatever the final result may be, it is a matter for profound regret that the agitation of the last nine months should have arisen. Members of a profession, justly renowned for its altruism, cannot but deplore that circumstances should have forced them to take up an attitude of hostility towards a measure designed for the benefit of the sick. But the present position is not a new one. The Insurance Act affords the latest instance, and one on a large scale, of the unsatisfactory way in which matters demanding medical knowledge have been dealt with by the State. In some cases, as, for example, the Midwives Act and the Notification of Births Act, the interests of the profession have been neglected. More important are the cases in which the community has suffered. It would seem as though in dealing with matters demanding medical knowledge Parliament does not always grasp the importance of familiarity with the conditions under which that knowledge is to be applied, and the necessity of giving to scientific men the power of dealing with questions involving scientific principles. Many instances might be cited, but two will suffice. Consider the efforts which have been made to secure the purity of foodstuffs. Since 1875 there have been at least 12 Acts or amending Acts dealing with specified foods or foodstuffs generally, as well as Public Health Acts and Local Government Acts dealing with them incidentally, yet many of the commonest foods are adulterated or contain injurious preservatives. This is in part due to a system which may call upon a lay sanitary authority, bench of justices, or stipendiary magistrate to decide whether or not a particular substance is injurious to health, and other questions involving knowledge of chemistry, physiology, and hygiene. The Workmen's Compensation Act provides another instance. The statutory provisions enabling purely medical questions to be determined by medical men are so hedged in by restrictions as to be largely ineffective, and county court judges have frequently to decide between conflicting medical evidence and to exercise knowledge of medicine and surgery.

Perhaps even more serious is the indefinite postponement of important recommendations. Fifteen years ago a Select Committee on the Registration and Certification of Death pointed out the dangers of the present system and advised drastic alterations in the law, but no Government action has yet been taken. The failure to act upon the recommendation of the Committee on Physical Deterioration that the prevalence of syphilis should be investigated is another instance. But the most striking illustration is afforded by the Insurance Act itself. One of the difficulties confronting the actuaries was the scanty knowledge available of sickness rates, and

some of their estimates are only approximations in consequence. Yet the above-mentioned Committee recommended in 1904 "as in the highest degree desirable" that a Register of Sickness should be established and maintained. Such a Register now would be of the greatest value.

It is possible that this unfortunate state of affairs arises partly from the fact that the medical profession is so poorly represented in the legislature. Out of 670 Members of the House of Commons, there has never at any time been more than a handful of medical men. There have only been one or two in the minor posts of the Government, and there has never been a medical man in the Cabinet or at the head of an administrative department. Contrast this with the conditions in France, where last year in the legislative body 59 deputies, 37 senators, and two Ministers of State were members of the medical profession; or with the legal profession in this country, which has something like 150 members in Parliament.

The absence of medical counsel in public affairs is a serious drawback, for the medical man is peculiarly fitted to take part in social legislation. Unlike the lawyer, who venerates precedent, his training teaches him to look forward and welcome progress. His experience familiarises him with the conditions of life among the poor and gives him a knowledge of human nature. It is permissible to hope that the Insurance Act will at least have the effect of bringing to the medical profession a stronger sense of its civic duties and opportunities.

For matters of moment remain to be dealt with. In the future, steps must be taken to suppress the evils resulting from the operations of cancer curers, consumption specialists, and quacks of all kinds. The indiscriminate sale of worthless or harmful proprietary medicines to the ignorant poor, and the anomaly whereby a State which declares abortion to be a crime derives part of its revenue from the sale of abortifacients, call for suppression. The fourteenth century procedure of the coroners' courts, which allows a layman assisted by a jury of working men to determine whether an anæsthetic was necessary and was duly and properly administered, must be changed. More scientific methods are required in apportioning responsibility for crime. The problems of the feeble-minded and the inebriate will only be solved by the aid of medical science. The medical profession has a great past and noble traditions; it must look forward to a greater future and the playing of a more active part in the life of the nation.

ANNUAL REPORT OF THE PRESIDENT OF THE LOCAL GOVERNMENT BOARD.[1]

ALTHOUGH this report is mainly concerned with Poor-law administration Mr. John Burns takes occasion to discuss many subjects of which the bearing is definitely medical, and which therefore deserve consideration in our columns.

It is matter for congratulation that the decrease in pauperism reported in 1909 has since been fully maintained. Comparing the total number relieved on New Year's Day, 1910, with the corresponding facts for 1911, we learn that there was a decrease at the latter date amounting to 4·7 per cent. From comparative statistics it appears that whilst the ratio of pauperism to population did not exceed 24·5 per 1000 in the county of Carmarthen and 24·6 in Worcester, it amounted to 41·3 per 1000 in the county of Anglesey. On Jan. 1st, 1911, the average rate of pauperism to population in England and Wales was 24·9 per 1000. This rate is lower than any of the rates for the corresponding dates in the previous nine years.

Old Age Pensioners.

In the course of the year under notice 5077 persons, mostly men, aged 70 years or upwards, became old age pensioners, and consequently ceased to be chargeable to the guardians as paupers.

Insane Paupers; The "Won't Works."

In certain respects the records of pauperism are unsatisfactory. In the first place, the number of insane poor returned by the Commissioners in Lunacy still continues to show a steady increase; secondly, the adult able-bodied paupers, the "won't works," relieved during the parochial year ended Lady Day last, were more numerous than in any previous year, with the single exception of 1910; and, thirdly, it appears that in the course of last year 552 casual paupers were convicted under the Vagrancy Act, the majority either for refusing to perform the prescribed task of work or else for absconding.

Boarding-out of Pauper Children.

Although in recent years the number of children supported out of the rates has somewhat increased, nevertheless, when compared with the number similarly circumstanced 25 years ago, there has been in later years a considerable decrease. It is gratifying to learn that in the year 1910 nearly two-thirds of the pauper children in England and Wales were supported in institutions other than workhouses and union infirmaries. In the course of the last decade the number of children boarded out has risen from 7547 in the year 1901 to 9669 in 1911. On the first day of the last-mentioned year the total number of children of school age (3–14 years) maintained at the public expense was 45,605, only 312 of whom were educated in "workhouse schools," which, accordingly, may now be said to have practically ceased to exist. Almost all the pauper children are educated in public elementary schools approved for that purpose by the Local Government Board.

Emigration of Pauper Children.

The practice of sending to Canada orphan or deserted pauper children has been continued during the year with the happiest results. The reports of the Dominion immigration officers received through the High Commissioner for Canada show that the 2000 English emigrant children now resident in Canada are generally doing well, and that only in rare instances is the desire expressed for return to their native land. In this connexion an extract is inserted from the report of Mr. F. G. A. Butler, chairman of the Emigrant's Information Office, respecting his inspectorial visit to Canada in 1909. Commenting on this document, Mr. Burns remarks that "Mr. Butler's references to the high appreciation shown by the Canadian authorities of the work of the guardians in the emigration of children, and of the value to Canada of the children so emigrated, afford us (the Local Government Board) much satisfaction."

Medical Relief.

Of the total sum expended annually on Poor-law relief about one-fifteenth part is accounted for under the head of "medical relief." Some idea of the extent to which institutional treatment is accepted by the indigent poor may be gathered from the fact that on Jan. 1st, 1911, nearly 34 per cent. of the aggregate of indoor paupers were provided for in Poor-law infirmaries or hospitals. Compared with earlier years much greater attention is now given by guardians to the perfecting of arrangements for nursing sick paupers both in infirmaries and at their own homes; and the number of nurses employed in Poor-law institutions has risen from 4106 in the year 1897 to 7277 in the year last ended. This large accession to the nursing staffs has been due to general improvements in the service rather than to the numerical increase of patients. In only a few instances are nurses employed for exclusive attendance on paupers at their homes; on the contrary, the Board encourages the guardians to subscribe to nursing institutions, and this practice is now annually becoming more general throughout the country.

Care of the Insane; Training of Idiots.

The total number of paupers classed as insane was 118,864, of whom 53,318 were men, 63,160 women, and 2386 children. Of this total, 94,985 were supported in county and borough asylums, 7041 in imbecile asylums, and 12,117 in workhouses—the remaining 4721 being included among outdoor paupers. The average daily number of imbeciles under the care of the managers of the Metropolitan Asylums Board was 6843, of whom 38 were children under 5 years of age. Of the remainder, 212 were over 70 years old, and of these no fewer than six had passed their ninetieth birthday. During the year a certain number of idiots were removed from workhouses and placed in separate institutions provided for the special care and training of idiots, or in institutions registered under the Act of 1886 for the reception of idiots and imbeciles.

[1] Fortieth Annual Report of the Local Government Board, 1910-11, Part I. Wyman and Sons. Price 1s. 2d.

Work of the Metropolitan Asylums Board.

For the classification and treatment of mentally defective children the managers of this Board are at present considering an improved scheme. The number of such children under their care at the end of the year was 331, including a number received in childhood but since passed into adolescence. By the conversion of one of the Board's fever hospitals, the "Park" hospital, near Lewisham, the accommodation for sick and debilitated children was substantially increased last year. The total number of children admitted to this hospital or to the institution near Darshalton was 2485. In the board's ophthalmic schools 682 patients were admitted. The admissions to the ringworm school were 1019, the average duration of treatment there being 3·7 months per case. The Board's seaside homes provided a temporary residence for 942 children in the course of the year.

Maternity Department.

Particulars are given respecting 4493 mothers who were admitted to the maternity wards in the course of the year, showing that the number who died either in the wards or after discharge to the infirmary sick wards was 39, this number including all deaths, whether or not they were primarily due to childbirths. In many cases the deaths were attributed to causes not primarily due to childbirth. In 19 out of the 39 cases the mother did not come into the hospital until the actual day of delivery, or else she was admitted whilst in labour; and in four other cases the child had been born before admission of the mother. It should further be stated that in a large proportion of the cases the mothers who died were very seriously ill, and in some cases actually moribund, on admission.

The tables accompanying this section of the report show the number and causes of death of infants which occurred in the maternity wards during the first and second weeks of life. From these tables we learn that the percentage of children who died in the maternity wards within the first two weeks of life is higher than in the general population. But this is probably due to pre-natal and maternal conditions entirely unconnected with, and independent of, the character of the administration of the lying-in wards. The character of the parents and the conditions in which they have lived are the dominating factors in determining the death-rate. Thus we find that of the 142 deaths in the first week of life 81 were due to premature birth, 26 to congenital defects, atrophy, &c., and 15 to other causes.

PRINCESS ALICE MEMORIAL HOSPITAL, EASTBOURNE.—The committee of the Princess Alice Memorial Hospital, Eastbourne, at the annual meeting of the governors on Feb. 23rd, recorded with very great regret the retirement of Dr. T. Macqueen, Dr. A. P. Sherwood, and Mr. H. D. Farnell from the medical staff, of which they had been members since the foundation of the hospital nearly 29 years ago. Mr. Farnell was the last retiring member of the original medical staff, and to him and the other retiring members the committee felt that not only the hospital authorities, but the whole town of Eastbourne and its neighbourhood, owed a debt of gratitude which could never be adequately repaid. A vote of thanks was accorded Mr. Farnell, who, in responding, mentioned that of the acting staff originally appointed all were alive to-day with the exception of Dr. Hayman. It was announced at the meeting that it had been decided to give a complimentary dinner to the retiring members of the staff on March 16th, and that the Duke of Devonshire would take the chair. By Mr. Farnell's retirement all the original members of the medical staff of the hospital are now superannuated. A new wing at the hospital, to contain 20 beds, is in the course of erection, and with the addition, if sufficient funds can be raised, of a nurses' home to be built in the hospital grounds, will form the Eastbourne memorial to King Edward VII. When the new wing is completed and in working order additional annual subscriptions to the amount of £1000 will be required, and the committee is appealing for new subscribers. So far as Eastbourne is concerned the committee has not found a withdrawal of subscriptions owing to the Insurance Act, but that owing to an energetic canvass the subscriptions were showing a considerable increase, yet hardly up to expectations.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

A MEETING of the Organisation Committee of this Congress was held on Monday afternoon, Feb. 19th, in the Library of the Royal College of Physicians of London, the President of the Congress and of the College being in the chair. Forty-two members were present.

The minutes of the last meeting, which were published in THE LANCET and *British Medical Journal* of July 22nd, 1911, were confirmed.

It was reported from the Executive Committee—(1) that H.R.H. Prince Arthur of Connaught had consented to open the Congress; (2) that certain additional vice-presidents of the Congress and officers of the sections would be elected; (3) that Dr. Clive Rivière, secretary of the Reception Committee, had been elected to the Executive Committee; (4) that the following had been invited to give general addresses: Professor Chauffard in medicine, Professor Harvey Cushing in Surgery, and Geheimrat Professor Paul Ehrlich in pathology, and that they had all accepted; (5) that a circular invitation with lists of sections and principal officers of Congress, rules of Congress, rules of sections, and form of application (published in THE LANCET and the *British Medical Journal* of Jan. 6th, 1912) had been issued by post to 6600 medical men throughout the world, and that abridged notices had appeared in a large number of foreign medical journals; (6) that at a meeting of officers of sections the following programme of discussions had been drawn up, subject to alterations if necessary:—

PROVISIONAL PROGRAMME OF SUBJECTS FOR DISCUSSION.

Section I.—Anatomy.

1. The Excitatory and Connecting Muscular System of the Heart (jointly with III., 2). 2. The Morphology of the Sympathetic System. 3. The Early Stages of the Human Ovum. 4. Cerebral Localisation and the Precise Significance of Sulci. 5. The Morphology of the Shoulder Girdle.

Section II.—Physiology.

1. Internal Secretions (jointly with VI., 1). 2. Reciprocal Innervation. 3. Endogenous Metabolism of Proteins (jointly with III. (a), 5).

Section III.—General Pathology and Pathological Anatomy.

1. The Pathology of Shock. 2. The Excitatory and Connecting Muscular System of the Heart (jointly with I., 1). 3. Grafting of Normal Tissues as Dependent upon Zoological or Individual Affinity; Autoplastic, Isoplastic, Heteroplastic. 4. The Pathology of Fats and Lipoids. 5. The Effect of Radio-active Substances and Radiations upon Normal and Pathological Tissues.

Subsection (a).—Chemical Pathology.

1. Pathological Conditions due to Defects in Diet. 2. Clinical Applications of Pathological Chemistry. 3. The Chemical Pathology of the Alimentary Tract. 4. Cancer (jointly with IV., 3). 5. Endogenous Metabolism of Proteins (jointly with II., 3).

Section IV.—Bacteriology and Immunity.

1. Theories of Immunity and Anaphylaxis. 2. Nature of Virulence. 3. Cancer (jointly with III. (a), 4). 4. Filter Passers. 5. Leprosy and Allied Bacilli.

Section V.—Therapeutics.

1. On the Comparative Value of the Cardiac and Vascular Remedies in Common Use. 2. The Mode of Action and Uses of Remedies for Pain or Sleeplessness. 3. Chemical Toxines and Antitoxines. 4. A Laboratory Meeting. 5. A Discussion upon a subject relating to Balneology or Physio-Therapy.

Section VI.—Medicine.

1. Correlation of Organs of Internal Secretions and their Disturbances (jointly with II., 1). 2. Differentiation of the Chronic Arthrites. 3. The Pathology of Heart Failure. 4. Diabetes. 5. The Clinical Aspects of Hæmolysis.

Section VII.—Surgery.

1. The Operative Treatment of Malignant Disease of the Large Intestine (excluding the rectum). 2. The Treatment of Tumours of the Brain, and the Indications for Operation (jointly with XI., 5). 3. Intrathoracic Surgery. 4. The Treatment of Early Renal and Vesical Tuberculosis (jointly with XIV., 1). 5. The Surgery of the Arterial System.

Subsection (a).—Orthopædics.

1. The Treatment of Spastic Paralyses. 2. The Treatment of Scoliosis. 3. Radiography of Bones and Joints, and its value in Orthopædic Surgery (jointly with XXII., 5). 4. The Treatment of Ankylosis. 5. The Treatment of Tuberculous Joints in Childhood. (To be on a different day from X., 3).

Subsection (b).—Anæsthesia.

1. (a) Recent Methods of Producing Analgesia: (1) Intrathecal, (2) Local, and (3) Regional; (b) Contrast the immediate and after-effects,

especially Shock, e.g., Intrathecal and Local Analgesia with Inhalational Anæsthesia, with special reference to Psychic Shock. 2. Recent Methods of General Anæsthesia: (a) Ether—(i.) Open method, (ii.) Intravascular, (iii.) Intratracheal, (iv.) Nasal, and (v.) Rectal; (b) Inhalational Anæsthesia in association with Alkaloidal Bodies—(i.) Nitrous Oxide in Major Surgery, (ii.) Ether, (iii.) Chloroform. 3. Dosimetric Method of Administering: (1) Chloroform and (2) Ether—(a) Regulators and (b) Mixtures. 4. Post-operative Effects and Toxæmias Associated with Anæsthetics.

Section VIII.—Obstetrics and Gynæcology.

1. Cancer of the Uterus (Body and Cervix); operative technique and results. 2. Röntgen and Radium Therapy in Gynæcology (jointly with XXII., 1). 3. The Treatment of Hæmorrhage from the Placental Site (placenta prævia and accidental hæmorrhage) in the later months of pregnancy. 4. Infant Mortality in the First Four Weeks of Life (jointly with X., 5, and XVIII., 1).

Section IX.—Ophthalmology.

1. The Pathogenesis of Chronic Uveitis, excluding the Syphilitic, Tuberculous, and Sympathetic Varieties. 2. Glaucoma Operations, with Special Reference to the Comparative Results attained by Iridectomy and its Recent Substitutes. 3. Affections of the Eye produced by Undue Exposure to Light. 4. Anaphylaxis in its Relation to Ophthalmology. 5. "Demonstration" Meeting or a Discussion upon a Subject not yet Determined.

Section X.—Diseases of Children.

1. Infection of the Urinary Tract with Colon Bacilli (on a different day from XIV., 3). 2. Effects of the Ductless Glands on Development (on a different day from II., 1, and VI., 1). 3. The Treatment of Tuberculosis in Childhood from the Surgical Point of View, with Special Reference to the Bones, Joints, and Glands (on a different day from VII. (a), 5). 4. Polio-encephalitis and Poliomyelitis. 5. Infant Mortality in the First Four Weeks of Life (jointly with VIII., 4, and XVIII., 1).

Section XI.—Neuropathology.

1. The Symptoms of Cerebellar Disease and their Significance. 2. Motor Aphasia, Anarthria, and Apraxia. 3. The Relation of Trauma to Degenerative Diseases of the Nervous System. 4. The Nature of the Condition termed Parasyphilis (on a different day from XII., 5). 5. The Treatment of Tumours of the Brain, and the Indications for Operation (jointly with VII., 2).

Section XII.—Psychiatry.

1. The Psychiatric Clinique, its Aims (educational and therapeutic) and the Results obtained in respect to Promotion of Recovery. 2. The Psychoses of Infection and Auto-intoxication. 3. Psycho-analysis. 4. The Psychology of Crime (jointly with XIX., 4). 5. The Syphilitic and the Parasyphilitic Insanities (on a different day from XI., 4).

Section XIII.—Dermatology and Syphilography.

1. Epithelioma of the Skin, Benign and Malignant. 2. Syphilis: its Dangers to the Community, and the Question of State Control (jointly with XIX., 3). 3. Alopecia Areata and Allied Conditions. 4. The Treatment of Syphilis by Salvarsan and Allied Substances (jointly with XX., 7). 5. The Vaccine Treatment of the Diseases of the Skin.

Section XIV.—Urology.

1. The Treatment of Early Renal and Vesical Tuberculosis (jointly with VII., 4). 2. The Early Diagnosis and Treatment of Malignant Disease of the Prostate. 3. The Value of Vaccines in the Treatment of Hæmic Infections of the Urinary Tract.

Section XV.—Rhinology and Laryngology.

1. The Disorders and Pathological Changes produced in the Pharynx and Larynx by the Over-use and Mis-use of the Voice. 2. The Treatment of Syphilitic Diseases of the Throat, Nose, and Ear, by Salvarsan and other Arsenical Compounds (jointly with XVI., 2). 3. The Question of Treatment of Diseases of the Throat and Nose by Therapeutic Inoculation, exclusive of Tuberculin and Diphtheritic Antitoxin. 4. The Special Treatment of the Throat, Nose, and Ear, during the Active Stages of Certain Infectious Fevers—namely, scarlet fever, measles, German measles, mumps, influenza, typhoid, whooping-cough, small-pox, cerebro-spinal meningitis, erysipelas (diphtheria excluded) (combined with XVI., 4). 5. Malignant Disease of the Post-cricoid Region.

Section XVI.—Otology.

1. Pathology of Deaf-Mutism. 2. The Treatment of Syphilitic Diseases of the Throat, Nose, and Ear by Salvarsan and other Arsenical Compounds (jointly with XV., 2). 3. Treatment of Non-suppurative Diseases of the Labyrinth. 4. The Special Treatment of the Throat, Nose, and Ear during the Active Stages of certain Infectious Fevers—namely, scarlet fever, measles, German measles, mumps, influenza, typhoid, whooping-cough, small-pox, cerebro-spinal meningitis, erysipelas (diphtheria excluded) (jointly with XV., 4). 5. Climatic and Occupational Influences in Diseases of the Ear.

Section XVII.—Stomatology.

1. The Pathology and Treatment of Periodontal Disease (Pyorrhœa Alveolaris). 2. The Relation of Nasal Obstruction to Dental Disease. 3. A Discussion on Reflex and Functional Disturbances in Connexion with Teeth. 4. Dental Diseases in Relation to Public Health. 5. The Supervision of the Health of Children between Infancy and School Age (jointly with XVIII., 3).

Section XVIII.—Hygiene and Preventive Medicine.

1. Infant Mortality in the First Four Weeks of Life (jointly with VIII., 4 and X., 5). 2. The Causes, Prevention, and Treatment of Visual Defects in School Children. 3. The Supervision of the Health of Children between Infancy and School Age (jointly with XVII., 5). 4. (a) The Factors that Determine the Rise, Spread, and Degree of Severity of Epidemic Diseases; (b) Protective Inoculation in Acute Infectious Diseases. 5. The Effects of Dust in producing Diseases of the Lungs.

Section XIX.—Forensic Medicine.

1. The Cause and Prevention of Suicide. 2. The Habitual Inebriate in Relation to Civil and Criminal Responsibility. 3. Syphilis: its Dangers to the Community and the Question of State Control (jointly with XIII., 2). 4. The Psychology of Crime (jointly with XII., 4). 5. The Constitution and Equipment of a Medico-legal Institute.

Section XX.—Naval and Military Medicine.

1. Hospital Ships and Transport of Wounded. 2. Caisson Disease. 3. The Physiology of Physical Training and Marching. 4. Water-supplies in the Field. 5. Antityphoid Inoculation. 6. Transport of Wounded in Hill Warfare. 7. The Treatment of Syphilis by Salvarsan and Allied Substances (jointly with XIII., 4). 8. Sanitary Organisation in the Tropics (jointly with XXI., 5).

Section XXI.—Tropical Medicine and Hygiene.

1. Relapsing Fevers. 2. Leishmaniasis. 3. Plague. 4. Beri-beri. 5. Sanitary Organisation in the Tropics (jointly with Section XX., 8).

Section XXII.—Radiology.

1. Roentgen and Radium Therapy in Gynæcology (jointly with VIII., 2). 2. The Radiotherapy of Malignant Disease. 3. The X Ray Examination of the Chest. 4. The X Ray Examination of the Abdomen. 5. The X Ray Examination of Bones and Joints and its Value in Orthopædic Surgery (jointly with VII. (a), 3).

The Executive Committee reported further:—

7. That the following estimate of expenses had been drawn up by the treasurer, reported by the Finance Committee, and adopted:—

ESTIMATE.

I.—General expenditure—	
(a) General meetings ... ... (If the Albert Hall be used the expense may be somewhat less)	£300
(b) Sectional meetings	800
(c) Badge	180
(d) Secretarial work	500
Rent of offices	350
(e) Printing, postage, stationery, and various	3,250
(f) Pathological museum	500
	£5,880
II.—Entertainments—	
1. An opening evening reception.	
2. An evening garden fête or soirée ...	£1,500
III.—Transactions	£5,000
Estimated total expenditure ...	£12,380

8. That on report of the Reception Committee it was resolved to recommend that there be a formal reception by the President on the evening of Wednesday, August 6th, 1913, being the first day of Congress, and that the arrangements for sectional dinners be left in the hands of the sections.

9. That letters having been received from Professor Sudhoff (Berlin) (in the name of the Deutsche Gesellschaft für Geschichte der Medizin), Dr. Comrie (Lecturer on the History of Medicine at Edinburgh), Dr. T. von Györy (Budapest), Dr. E Wickersheimer (in the name of the Société Française d'Histoire de la Médecine), and others, urging the establishment of a section of the History of Medicine, it was resolved to recommend that the establishment of a section of the History of Medicine be recommended to the Permanent Commission.

The report of the Executive Committee was adopted. It was further resolved that the Historic Exhibits Committee be dissolved.

TAVISTOCK (DEVON) COTTAGE HOSPITAL.—At the annual meeting of the subscribers to this hospital, held recently, the chairman referred with regret to the death of Mr. J. Snowden-Smith, who had been a member of the honorary medical staff for the past 19 years. The following were elected honorary medical officers to the institution: Mr. Charles Cumberland Brodrick, L.R.C.P. & S. Edin.; Mr. Albert Bowhay, M.D. Durh., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., D.P.H. Camb.; Mr. Henry Warren Cowe, M.D., B.Ch. Oxon., L.R.C.P. Lond., M.R.C.S. Eng.; Mr. George Hewlett Stanhope Hillyar, L.R.C.P. & S. Edin., L.F.P.S. Glasg.; and Mr. Charles William Secombe, L.R.C.P. Lond., M.R.C.S. Eng.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 94 largest English towns having an estimated population of 17,559,219 persons in the middle of this year, 8458 births and 5645 deaths were registered during the week ending Feb. 24th. The annual rate of mortality in these towns, which had been 18·6, 21·6, and 18·6 per 1000 in the three preceding weeks, further declined to 16·8 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these large towns averaged 17·2 per 1000, while in London during the same period the average annual death-rate did not exceed 16·4 per 1000. The annual death-rates last week in the several towns ranged from 6·9 in Ilford, 7·8 in Southend-on-Sea, 8·1 in Enfield, 8·3 in Wimbledon, and 8·8 in Ealing, to 24·9 in Salford, 26·5 in West Bromwich, 27·0 in Walsall, 27·4 in Dudley, and 31·4 in Great Yarmouth.

The 5645 deaths from all causes in the 94 towns were 625 fewer than the number in the previous week, and included 353 which were referred to the principal epidemic diseases, against 435 and 365 in the two preceding weeks. These 353 deaths from the principal epidemic diseases included 147 from whooping-cough, 88 from measles, 44 from diphtheria, 39 from infantile diarrhœal diseases, 18 from enteric fever, and 17 from scarlet fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·0 per 1000, against 1·3 and 1·1 in the two preceding weeks. The deaths attributed to whooping-cough, which had been 166, 186, and 148 in the three preceding weeks, numbered 147 last week, and caused the highest annual death-rates of 1·6 in Edmonton and in Birkenhead, 2·3 in West Bromwich, 3·4 in Walsall, 4·6 in Great Yarmouth, and 5·1 in Merthyr Tydfil. The deaths referred to measles, which had been 63, 98, and 69 in the three previous weeks, increased to 88 last week; the highest annual death-rates from this cause were 1·6 in Nottingham, 1·7 Rhondda, 1·9 in Oxford, 2·1 in Warrington, 2·2 in Salford, and 3·0 in Wakefield. The fatal cases of diphtheria, which had declined from 71 to 43, in the three preceding weeks, were 44 last week, and included 14 in London and its suburban districts, 4 in Leeds, and 3 in Bradford. The deaths attributed to infantile diarrhœal diseases, which had been 67, 49, and 58 in the three preceding weeks, declined to 39 last week; 8 deaths were registered in London and 6 in Manchester. The deaths referred to enteric fever last week numbered 18, and were equal to the average in the seven preceding weeks; 3 deaths were recorded in London and 2 in Bristol. The fatal cases of scarlet fever, which had increased from 21 to 28 in the three preceding weeks, declined to 17 last week, and included 4 in Liverpool and 2 in Leeds.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had been 1500, 1512, and 1461 in the three preceding weeks, had further declined to 1427 on Saturday last; 181 new cases of this disease were admitted to these institutions during the week, against 169, 178, and 154 in the three preceding weeks. These hospitals also contained on Saturday last 1168 cases of diphtheria, 431 of whooping-cough, 212 of measles, 66 of enteric fever, and 2 of small-pox. The 1334 deaths from all causes recorded in London were 231 fewer than the number in the previous week, and were equal to an annual death-rate of 15·4 per 1000. The deaths referred to diseases of the respiratory system, which had been 394, 545, and 440 in the three preceding weeks, further declined to 352 last week, and were 43 below the number recorded in the corresponding week of last year.

Of the 5645 deaths in the 94 large towns, 174 resulted from different forms of violence, and 383 were the subject of coroners' inquests. The causes of 40, or 0·7 per cent., of the deaths registered last week were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Sheffield, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Portsmouth, and in 67 other smaller towns. The 40 uncertified causes of death last week included 8 in Birmingham, 8 in Liverpool, 3 in Southport, 3 in Rotherham, 2 in Darlington, and 2 in Gateshead.

HEALTH OF SCOTCH TOWNS.

In the 18 largest Scotch towns, having an estimated population of 2,182,400 persons in the middle of this year, 1102 births and 775 deaths were registered during the week ending Feb. 24th. The annual rate of mortality in these towns, which had been 22·8 and 22·1 per 1000 in the two preceding weeks, further declined to 18·5 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual rate of mortality in these towns averaged 19·1 per 1000, and was 1·9 per 1000 in excess of the mean rate recorded during the same period in the 94 large English towns. The annual death-rates in the several Scotch towns last week ranged from 6·1 in Falkirk, 8·8 in Motherwell, and 10·6 in Partick, to 22·7 in Paisley, 23·3 in Ayr, and 23·4 in Greenock.

The 775 deaths from all causes were 148 fewer than the number in the preceding week, and included 120 which were referred to the principal epidemic diseases, against numbers increasing from 89 to 103 in the four preceding weeks. Of these 120 deaths, 62 resulted from measles, 22 from diphtheria, 18 from whooping-cough, 11 from infantile diarrhœal diseases, 4 from enteric fever, and 3 from scarlet fever, but not one from small-pox. These 120 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·9 per 1000, or 1·9 per 1000 above that recorded in the 94 large English towns. The deaths attributed to measles, which had increased from 39 to 63 in the four preceding weeks, were 62 last week, and included 41 in Glasgow, 5 in Greenock, 4 in Edinburgh, 3 in Aberdeen, and 3 in Kilmarnock. The deaths referred to diphtheria, which had been 12, 13, and 6 in the three preceding weeks, rose to 22 last week; 10 deaths were registered in Glasgow, 3 in Leith, 2 in Edinburgh, and 2 in Coatbridge. The fatal cases of whooping-cough, which had been 14 in each of the three preceding weeks, rose to 18 last week, and included 5 in Ayr and 4 in Glasgow. The deaths of infants attributed to diarrhœal diseases, which had been 6 and 14 in the two previous weeks, declined to 11 last week, of which number 4 were recorded in Glasgow. The 4 deaths referred to enteric fever were equal to the number in the previous week, and included 2 in Glasgow. The 3 fatal cases of scarlet fever were registered in Glasgow, Edinburgh, and Aberdeen respectively.

The deaths referred to diseases of the respiratory system, which had been 220 and 209 in the two previous weeks, further declined to 192 last week; and 19 deaths were attributed to different forms of violence.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,157,014 persons in the middle of this year, 566 births and 545 deaths were registered during the week ending Feb. 24th. The annual rate of mortality in these towns, which had been 31·0 and 26·6 per 1000 in the two preceding weeks, further declined to 24·6 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these Irish towns averaged 23·7 per 1000; in the 94 large English towns the mean annual death-rate during the same period did not exceed 17·2 per 1000, while in the 18 Scotch towns it was equal to 19·1 per 1000. The annual death-rates in the several Irish towns last week were equal to 23·3 in Dublin (against 15·4 in London), 26·9 in Belfast, 24·5 in Cork, 12·7 in Londonderry, 23·1 in Limerick, and 38·0 in Waterford; while in the 16 smallest of these towns the death-rate last week was equal to 23·1 per 1000.

The 545 deaths from all causes in the 22 Irish towns were 45 fewer than the number in the previous week, and included 27 which were referred to the principal epidemic diseases, against 49 and 42 in the two preceding weeks; of these 27 deaths, 14 resulted from whooping-cough, 5 from infantile diarrhœal diseases, 3 from measles, 2 from scarlet fever, 2 from diphtheria, and 1 from enteric fever, but not one from small-pox. These 27 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·2 per 1000; the death-rate last week from these diseases did not exceed 1·0 per 1000 in the 94 large English towns, while in the 18 Scotch towns it was equal to 2·9. The deaths attributed to whooping-cough, which had been 25 and 21 in the two preceding weeks, further declined to 14 last week, and included 9 in Belfast and 4 in Dublin.

The deaths of infants referred to diarrhœal diseases numbered 5 last week, against 7 and 8 in the two preceding weeks; 2 deaths were recorded in Dublin. The fatal cases of measles, which had increased from 2 to 8 in the three preceding weeks, declined to 3 last week, and comprised 2 in Dublin and 1 in Clonmel. The 2 deaths from scarlet fever, the fatal case of enteric fever, and 1 of the 2 deaths from diphtheria were registered in Dublin.

The deaths referred to diseases of the respiratory system, which had been 239 and 212 in the two preceding weeks, further declined to 189 last week. Of the 545 deaths from all causes in the 22 Irish towns, 129, or 24 per cent., occurred in public institutions, and 5 resulted from different forms of violence. The causes of 29, or 5·3 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 94 large English towns the proportion of uncertified deaths in the week under notice did not exceed 0·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Surgeon Arthur Robertson Davidson has been promoted to the rank of Staff-Surgeon in His Majesty's Fleet (dated Feb. 23rd, 1912).

The following appointments have been notified:—Deputy Surgeons-General: W. H. Norman to Malta Hospital; D. T. Hoskyn to Hong-Kong Hospital; E. R. Dimsey, D.S.O., to Haslar Hospital; W. W. Prym to Chatham Hospital; and P. B. Handyside to Plymouth Hospital. Fleet-Surgeons: M. L. B. Rodd to the *President*, additional, for three months' special course in surgery at the Dreadnought Seamen's Hospital; R. A. Ross to the *Hindustan*, on recommissioning; W. E. Marshall to the *Duke of Edinburgh*, on recommissioning; and E. A. Penfold to the *Excellent*, additional, for the *Revenge*. Staff-Surgeons: F. Bolster to Plymouth Hospital, temporary; R. W. G. Stewart to the *Racer*, additional, for Osborne College, temporary; C. R. Sheward to the *Pomone*, additional, for Royal Naval College, Dartmouth; G. H. S. Milln to the *Duke of Edinburgh*, on recommissioning; and H. C. Whiteside to the *St. George*, temporarily. Surgeon: F. G. H. R. Black to the *Heela*.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Lieutenants to be Captains (dated Feb. 1st, 1912):—Charlie Ryles, David S. Buist, William E. Marshall, Alexander M. Pollard, Gilbert G. Collet, Colin Clarke, Edmund V. Vaughan, Arthur N. R. McNeill, Andrew R. Wright, Thomas B. Nicholls, Julian B. Jones, James A. Clark, Stuart McK. Saunders, Thomas J. Mitchell, Frank H. Somers-Gardner, Donald H. C. MacArthur, George S. Parkinson, Herbert Gall, Charles H. O'Rorke, Austin W. Byrne, John Startin, Charles G. Sherlock, George H. Stack, Harold H. Leeson, Samuel W. Kyle, John W. Lane, William G. Wright, and Albert T. J. McCreery.

The undermentioned to be Lieutenants (on probation) (dated Jan. 26th, 1912):—Alexander Gordon Biggam, Lieutenant David Torquil Macleod Large (from the Royal Army Medical Corps, Special Reserve), William Francis Christie, Roy Kyffin Mallam, Walter Woodall Pratt, Walter Stevenson, Maurice Burnett, Cuthbert James Blaikie, James Hebblethwaite Martin Frobisher, Christopher Martin Ingoldby, Owen Waller James Wynne, Lieutenant David Turnbull Richardson (from the Royal Army Medical Corps, Special Reserve), Edward Alexander Strachan, Lieutenant William McNaughtan (from the Forth Royal Garrison Artillery, Territorial Force), Lieutenant Sydney James Higgins (from the Royal Army Medical Corps, Special Reserve), Alexander Hood, John Lichtenstein Ritchie, Gilbert Alan Blake, Henry Roland L'Estrange, Cuthbert Joseph Harwood Little, Percy Arthur With, Robert Washington Vint, Stephen James Barry, Harold Wordsworth Leach Allott, and Edward Percival Allman Smith.

The undermentioned Lieutenants (on probation) are seconded under the provisions of Article 300, Royal Warrant for Pay and Promotion, 1909 (dated Jan. 26th, 1912):—Alexander G. Biggam, Walter W. Pratt, Maurice Burnett, Gilbert A. Blake, Cuthbert J. H. Little, Robert W. Vint, Harold W. L. Allott, and Edward P. A. Smith.

Surgeon-General H. R. Whitehead, principal medical officer of the Southern Command at Salisbury, has been selected for appointment as Principal Medical Officer of the Eastern Command, with effect from March 20th, on the retirement of Surgeon-General J. C. Dorman, C.M.G., honorary physician to His Majesty the King. Colonel A. F. Russell, C.M.G., lately commanding the Station Hospital at Malta, has taken up duty as Principal Medical Officer at Cairo, in succession to Colonel T. M. Corker, promoted Surgeon-General and transferred to the Indian Establishment. Colonel H. J. Barratt, lately senior medical officer in the Straits Settlements, has taken up duty as Principal Medical Officer of the Allahabad Brigade in India.

Lieutenant-Colonel F. W. Caton Jones, commanding the Station Hospital at Quetta, has been selected to succeed Lieutenant-Colonel E. H. L. Lynden Bell in the command of the Station Hospital at Meerut Cantonment. Lieutenant-Colonel A. L. F. Bate, on arrival home from India tour expired, has been posted to the Western Command. Lieutenant-Colonel F. P. Nichols, on relinquishing charge of the Military Hospital at Jersey, has taken up duty at Bodmin. Lieutenant-Colonel W. L. Gray, on arrival in India for a tour of duty, has been selected to command the Station Hospital at Jullundur. Lieutenant-Colonel R. L. R. Macleod, on return from a tour of service at Aden, has taken over charge of the Military Hospital at Devonport. Lieutenant-Colonel H. C. Thurston has been transferred from the Aldershot Command to the Royal Military Hospital at Sandhurst as Senior Medical Officer, vice Lieutenant-Colonel C. C. Reilly, whose tenure of the appointment has expired. Lieutenant-Colonel J. W. Bullen, lately commanding the Station Hospital at Wellington, Madras Presidency, has been selected to command the Station Hospital at Maymyo, Burma, in succession to Lieutenant Colonel C. E. Nichol, D.S.O., appointed Principal Medical Officer of the Presidency and Assam Brigades.

An exchange on the roster of foreign service has been sanctioned by the War Office between Major F. W. Begbie, serving at Colchester, and Major E. T. F. Birrell, Deputy Assistant Director-General, Army Medical Service. Major N. Faichnie, specialist sanitary officer, Fifth (Mhow) Division, has been granted eight months' general leave of absence in India. Major E. E. Powell, from Bordon, has taken up duty at Aldershot. Major A. J. MacDougall, on return from a tour of duty in Ceylon, has been posted to the Irish Command. Major F. S. Irvine has been transferred from the Aldershot Command to the Royal Army Medical College. Major C. F. Wanhill, Assistant Professor of Hygiene at the Royal Army Medical College, on arrival in India will be posted to the Fifth (Mhow) Division. Major J. D. G. Macpherson, in charge of the Military and Cantonment Hospitals at Pachmarhi, has been granted eight months' general leave of absence home from India with effect from March 18th. Major W. H. S. Nickerson, V.C., has been transferred from Peshawar to the Station Hospital at Rawal Pindi.

Captain M. B. H. Ritchie, Officiating Staff Officer of Medical Mobilisation Stores in the Second (Rawal Pindi) Division, has been granted one year's extension of his tour of service in India by His Excellency the Commander-in-Chief. Captain T. S. Blackwell, commanding the Station Hospital at Bhamo, has been detailed for duty on board the troopship s.s. *Rohilla*, which left Karachi for Southampton on Jan. 31st. Captain R. E. Humfrey, on return from duty at the Station Hospital, Jhansi, has been ordered to join in Ireland on April 2nd, and on arrival will be posted to the Dublin District. Captain W. Benson, lately holding charge of the Cantonment General Hospital at Rawal Pindi, has been directed to join in Ireland on March 2nd, and will be posted for duty to the Dublin District. Captain C. G. Browne, specialist in dermatology and venereal diseases to the Eighth (Lucknow) Division, has been granted six months' leave of absence home from Feb. 15th. Captain R. F. Ellery, from Benares, has taken up duty at the Station Hospital at Bareilly. Captain B. H. V. Dunbar has been moved from Enniskillen to Belfast for duty at the Military Hospital. Captain A. W. Sampey has left the Military Hospital at Warley for a tour of service in India with the Seventh (Meerut) Division. Captain R. H. MacNichol has taken up duty at the Royal Herbert Hospital, Woolwich, as Specialist in Dermatology and Venereal Diseases.

The following Lieutenants have been appointed for duty in

the Southern Command:—F. S. Tamplin, J. M. Elliott, and A. S. Heale. Lieutenant S. S. Dykes, from Aberdeen, has taken up duty at Piershill. Lieutenant P. S. Tomlinson has been transferred from Bulford Camp to the Military Hospital at Tidworth. Lieutenant E. C. Stoney has, on arrival in India, been appointed for duty in the Ninth (Secunderabad) Division of the Southern Army.

INDIAN MEDICAL SERVICE.

The Honourable Surgeon-General Sir C. P. Lukis, K.C.S.I., Director-General of the Indian Medical Service, has been appointed a Knight of Grace of the Order of St. John of Jerusalem in England. Brevet-Colonel H. F. Cleveland, principal medical officer of the Aden Brigade, has been granted leave of absence home. Lieutenant-Colonel A. O. Evans has been appointed to officiate as Principal Medical Officer of the Kohat Brigade. Lieutenant-Colonel J. Chaytor-White, Bengal Presidency, has been granted three months' extension of his leave of absence by the Right Honourable the Secretary of State for India, on the recommendation of a medical board. Lieutenant-Colonel J. B. Smith, civil surgeon at Poona, has arrived home on one year's leave of absence from Bombay.

His Excellency the Governor of Bombay in Council has been pleased to appoint Major E. C. G. Maddock on return to duty from leave, to be Civil Surgeon at Ahmednagar. Major J. W. Cornwall has been granted two years and seven months' leave of absence home from India. Major E. M. Ellington has been selected for appointment as District Medical Officer at Vizagapatam. Major E. F. G. Tucker has been appointed to officiate as Police Surgeon at Bombay. The services of Major S. A. Harris have been placed at the disposal of the Government of the United Provinces of Oudh and Rohilkhund. Major A. E. Walter, superintendent of the X Ray Institute at Dehra Dun, has been awarded the Kaiser-i-Hind gold medal. Major C. C. Murison, superintendent of the Matheran Lunatic Asylum at Colaba, has been appointed a Magistrate for the Bombay District. Major C. B. Prall has arrived home on leave of absence from Bengal Presidency.

Captain K. S. Singh, plague medical officer at Karnal, has been transferred to Amritsar. Captain T. T. Thompson has arrived home on leave of absence. Captain H. C. Keates has passed the colloquial examination in Punjabi and has been confirmed as a Civil Surgeon. Captain C. A. Gill has been appointed to officiate as Civil Surgeon at Simla during the absence on leave of Lieutenant-Colonel C. Duer. Captain A. Cameron, plague medical officer at Delhi, has been transferred to Gurdaspur. Captain J. Husband has been appointed a Specialist in Advanced Operative Surgery. Captain N. S. Sodhi, plague medical officer at Gurgeon, has been transferred to Ludhiana.

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd West Lancashire Field Ambulance, Royal Army Medical Corps: Mitchell Innes Dick to be Lieutenant (dated Dec. 15th, 1911).

DEATHS IN THE SERVICES.

Inspector-General Edward Elphinstone, C.B., R.N. (retired), at his residence, Holland Park-avenue, on Feb. 26th. He entered the service in 1878, took part in the first Boer war, landing with the Naval Brigade, and was present at Laing's Nek and at Majuba (mentioned in despatches and specially promoted to staff-surgeon). He also served in Egypt and landed with the army during the Burma war of 1885–87.

EXETER DISPENSARY.—The annual meeting of the subscribers to this institution was held recently, under the presidency of the Mayor (Dr. C. J. Vlieland). The financial statement showed that at the end of 1911 an adverse balance of £101 remained. The medical report stated that during the year 4918 patients had been treated, against 5068 in 1910. It was reported that the medical staff, considering the amount of visiting delegated to the visiting medical officer to be excessive, had suggested that two members of the staff should perform the duties and that an honorarium of 40 guineas each should be awarded them. A resolution to that effect was adopted. Dr. Henry Davy was elected president for the ensuing year.

Correspondence.

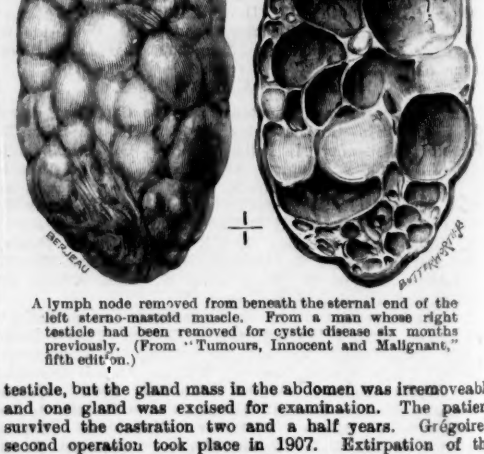
"Audi alteram partem."

THE "RADICAL" OPERATION FOR MALIGNANT DISEASE OF THE TESTICLE.

To the Editor of THE LANCET.

SIR,—In his comment on Mr. H. Morriston Davies's contribution entitled "Malignant Disease of the Testicle and the Treatment of it by Operation," Sir Alfred Pearce Gould asks in THE LANCET of Feb. 24th for information concerning the subsequent history of the patients who have been submitted to this operation. I am able to supply some. At the date on which you published my account of "An Improved Method of Removing the Testicle and Spermatic Cord for Malignant Disease"[1] I had no knowledge that a similar operation had been performed several times in France. In 1911 Dr. Paul Calin, of Lyons, sent me a copy of his admirable brochure, "Du Traitement Chirurgical du Cancer du Testicule (Extirpation des Ganglions Ilio-lombaires)," containing descriptions of 15 cases in which this radical operation had been attempted or performed. He includes my case in the series, and has been able to ascertain the after-history of some of the patients.

This "radical," or, as I prefer to call it, improved, method of removing the testicle for malignant disease, has been performed 17 times. In three instances with fatal results (Morestin, Michel, Gayet). Grégoire attempted it on three occasions. In the first operation (1905) he removed the



A lymph node removed from beneath the sternal end of the left sterno-mastoid muscle. From a man whose right testicle had been removed for cystic disease six months previously. (From "Tumours, Innocent and Malignant," fifth edition.)

testicle, but the gland mass in the abdomen was irremoveable and one gland was excised for examination. The patient survived the castration two and a half years. Grégoire's second operation took place in 1907. Extirpation of the gland mass was impossible. The man recovered from the operation, but returned to the hospital two months later with ascites and the "membres inférieurs gonflés d'œdème donnant l'impression de membres d'éléphants." He died a few months later. His third was in 1908; the patient survived it six months and succumbed with secondary deposits in the lungs. Fredet found a lymph gland on the aorta of his patient so firmly adherent that it could not be removed. He recovered from the operation; a few months later it was possible to make out by palpation a hard pre-vertebral mass in the region of the irremoveable gland. These results are not encouraging. Cuneo's patient could not be traced; he was an Italian, and after the operation returned to his own country. Gosset's patient was seen ten months after the

[1] THE LANCET, Nov. 13th, 1909, p. 1406.

operation in good health and free from obvious signs of recurrence.

In my case the subsequent history is of interest. The operation was performed on Sept. 8th, 1909, for cystic disease. The testicle and spermatic cord, with the vessels and lymphatics, were removed in one piece. The vena cava and aorta were exposed as high as the transverse portion of the duodenum. The only lymph gland I could find rested on the inferior vena cava; it was as big as a bean. The parts about the aorta were examined with eyes and fingers very thoroughly. Six months after the operation the patient returned with a swelling under the sternal end of the left sterno-mastoid muscle. This I exposed by operation, and shelled out a lymph node as big as a bantam's egg (see figure). This was cystic, and the cysts were lined with epithelium corresponding with that in the cystic spaces of the primary tumour. Two years after the operation the patient reports himself to be in good health. It is astonishing to find a tumour with so low a degree of malignancy as cystic disease of the testicle making use of the thoracic duct to climb up to the lymph nodes at the root of the neck.

The remaining cases are too recent for an opinion to be expressed as to the ultimate value of the operation, but the facts collected by Dr. Calin give a somewhat different complexion to the operation than the inaccurate summary furnished by Mr. Morriston Davies. The operation is worth an extended trial. I agree with Dr. J. K. Jamieson and Mr. J. F. Dobson[2] that the complete removal of the lymphatic area around the mesenteric and renal arteries is impracticable, but I maintain that by operating early we may hope in a proportion of cases to get beyond the infected lymphatics. The improved operation for removing the testicle will not be limited to castration for malignant disease. I have performed it with a good result in tuberculous disease of the testicle.

I am, Sir, yours faithfully,

Brook-street, W., Feb. 26th, 1912. JOHN BLAND-SUTTON.

To the Editor of THE LANCET.

SIR,—Sir Alfred Pearce Gould reproves me for my use of the word "radical" in connexion with the operation for the removal of the testicle together with the lymphatics, fascia, and primary set of glands, and suggests that the results of the 13 cases in which the operation was done do not justify the use of that term. But may I point out to him that the word "radical" was applied to this operation by other authors previous to me, and I conclude that they—as I certainly have done—mean "radical" to denote the anatomical range of the operation as in the current use of the word when applied to certain well-defined operations on the breast and mastoid or for the cure of herniæ, and not to the results.

As regards the actual results, my case has since developed a recurrence, but that has no bearing on the object of my paper, as I cannot suppose that anyone would draw conclusions on the value of an operation for malignant disease from the results of 13 cases only. The cases show that the operation is feasible and not dangerous, and I desire to emphasise the advisability on general principles of a further trial of the major operation in suitable cases so that a sufficient number of records may be collected in order to determine the value of this procedure.

I am, Sir, yours faithfully,

Harley-street, W., Feb. 24th, 1912. H. MORRISTON DAVIES.

THE RECENT OUTBREAK OF POLIOMYELITIS AT STOKE RIVERS.

To the Editor of THE LANCET.

SIR,—In your issues of Feb. 17th and 24th, which contain your criticism of the recent Local Government Board report on the prevalence of acute poliomyelitis in Devon during last summer, you state in regard to the outbreak at Stoke Rivers that among the whole 36 cases there is not a single case of definite poliomyelitis. I should like to point out that Dr. R. J. Reece left the locality before this particular outbreak occurred, and his report was evidently written some time in October, since which date I have kept him posted up in the subsequent course of the epidemic, some further details of which he communicated to the Epidemiological Section of the Royal Society of Medicine in a paper read in January.

At Dr. Reece's particular wish I closely investigated the Stoke Rivers outbreak, and from my personal acquaintance of about 150 cases of the disease, both in company with Dr. Reece and after his departure, I have not the slightest doubt that these at Stoke Rivers were instances of true poliomyelitis. (Thirty were of the abortive type, three of the bulbar or pontine form, two of the spinal poliomyelitis type, and one of the polyneuritic type.) One of the spinal form (paraplegia), taken ill on Oct. 26th, had an abortive attack on Sept. 25th.

I notice in your leading article of Feb. 24th that you lay stress on the point that Dr. Reece attached considerable importance to Kernig's sign. Whilst investigating cases in my presence he certainly only looked upon it, when present, as a sign which indicated implication of the spinal cord, in the same manner as other observers have in different parts of the world. As to the nature of the poison, it is most important, as you suggest, that further research in our own country should be carried out for finding this. I have a strong feeling that the "carrier" plays an important part in the dissemination of the virus; but our knowledge of the etiology and epidemiology of this disease must be materially added to before it is possible to speak definitely as to its method of spread. The reports of the Local Government Board show in what direction experimental research and careful observation of cases should be directed. We do not know whether the disease can be conveyed directly or indirectly by animals, or by animal parasites, or by dust. Is it possible that the virus can exist outside the animal body? Can it survive in milk? Investigation of these points, among others, is urgently required.

I am, Sir, yours faithfully,

Feb. 22nd, 1911. GEORGE ADKINS, County Medical Officer of Devon.

THE INFECTIVITY OF CANCER.

To the Editor of THE LANCET.

SIR,—I read with interest and appreciation two lectures on "Unicellula Cancri" by [the late] Sir Henry Butlin,[1] who has done good service in once more emphasising the fact that the parasite of cancer is the cancer cell itself, even though it may not be possible absolutely to identify cancer cells with protozoa, as he has suggested.

The question of priority is of less importance than is the fact that this conception of the cancer cell has been reached independently by other workers. In September, 1905, at the Australasian Medical Congress in Adelaide, I gave an address on cancer and tumour-growth, published in the *Australasian Medical Gazette* and in the *Edinburgh Medical and Surgical Journal*, in which I suggested (1) that the relation of the chorionic epithelium to the maternal decidua was essentially that of a neoplasm of restricted malignancy, so far as local infiltration and independence of growth was concerned—the fertilised ovum being for a time definitely parasitic upon the mammalian organism; (2) that the development of cancer was a biological phenomenon *sui generis*, and implied the generation of a new organism; (3) that the cancer process was an invasion of the parent organism by a brood of independent and hostile cells, equivalent to a microbic infection.

Again, in February, 1907, I elaborated these suggestions in an address to the First Australasian Dental Congress, published in the *Australasian Medical Gazette* and in THE LANCET.[2] I then said: "Whereas the cells of the healthy animal body are all working for the common good, the cancer cell appears as a seceder from this commonwealth. ..... Whatever the ultimate nature of cancer may prove to be, this at least is certain, that it constitutes an invasion of the organism by a brood of independent and hostile cells, and that, once these cells have made their appearance within the organism, they may undergo a practically indefinite and unlimited multiplication and proliferation. But these are precisely the conditions that go to make up the process of infection, and so we reach the general conclusion that, in a very definite and intelligible sense, cancer is an infective disease—as certainly infective as any disease due to an invasion of the organism by other parasitic cells, whether of bacterial or of animal origin. ..... Although the existence of a specific

[2] The Lymphatics of the Testicle, THE LANCET, Feb. 19th, 1910, p. 493.

[1] THE LANCET, Nov. 25th (p. 1457) and Dec. 2nd (p. 1535), 1911.
[2] THE LANCET, June 8th, 1907, p. 1554.

cancer parasite is at the best doubtful, the existence of the parasite, cancer, is beyond a doubt. ..... The cancer cell is in itself a parasite, and is endowed with that formidable attribute of the more highly pathogenic parasites—the attribute of infectivity." I then pointed out that, although cancer is an "infective" disease, it is probably not "infectious." I went on to show that a due appreciation of the "infective" nature of cancer tends, not to confuse, but to coördinate certain phenomena of tumour-growth, such as relative malignancy, which otherwise are hard to apprehend.

I am, Sir, yours faithfully,

University of Sydney, Jan. 15th, 1912. D. A. WELSH.

THE CRESCENDO MURMUR OF MITRAL STENOSIS.

To the Editor of THE LANCET.

SIR,—I beg to thank you for your very appreciative and much appreciated review of my small work on the elements of cardiac auscultation which appeared in THE LANCET of Jan. 27th. In this review you say that "the view that the crescendo murmur of mitral stenosis is ventricular systolic and not auricular systolic is, we believe, gradually gaining ground, but it is not as yet generally adopted." May I direct the attention of your readers interested in the subject to a paper by Weiss and Joachim, of Königsberg University, published in the *Zeitschrift für Klinische Medicin*, 1910, Vol. XIII.? These observers have done me the honour of devoting five of the eighteen pages of their article (The Registration of the Heart Sounds and Murmurs by Means of the Phonoscope, and their Relation to the Electro-cardiogram) to testing my theory on the causation of the crescendo murmur. They have taken tracings of the heart sounds and murmurs of mitral stenosis by means of the phonoscope synchronously with tracings of the movements of the auricle and ventricle with the string galvanometer. The evidence thus gained on the point at issue is therefore absolutely reliable. In their paper they say that if my theory is correct two things must happen: (1) The first sound in mitral stenosis must be abnormally delayed; and (2) the commencement of the crescendo murmur must be at a point of time at which the commencement of ventricular systole may be assumed.

These conditions are quite fair. As to the first point, they say that in 17 out of 18 cases of pure mitral stenosis the first sound was definitely late; and as to the second, they conclude that "the terminal portion of the crescendo murmur—namely, that portion which immediately precedes the first heart sound—is of ventricular origin, that is protosystolic." Dr. Joachim in a private letter says that he agrees with my contention as to the causation of this terminal part of the crescendo murmur, which he calls protosystolic in rhythm, and I call early ventricular systolic or presphygmic. I have always limited my argument to that part of the so-called presystolic murmur of mitral stenosis, which is of crescendo force and *rising pitch*, and this only occurs immediately before the first sound by which it is abruptly terminated. Murmurs of increasing force unless accompanied by rising pitch are not the true so-called crescendo murmurs. I may also state that papers by other writers are being published from time to time in which a true crescendo murmur is heard, but there is no evidence of auricular systole—i.e., as judged by electro-cardiograph tracings (e.g., on the Mechanism of the Presystolic Murmur, T. Stuart Hart, *Medical Record*, July 1st, 1911).

I am, Sir, yours faithfully,

E. M. BROCKBANK, M.D. Vict., F.R.C.P. Lond.

Manchester.

THE PATHOLOGY AND TREATMENT OF EXOPHTHALMIC GOITRE.

To the Editor of THE LANCET.

SIR,—I am much interested in Dr. G. R. Murray's paper in THE LANCET of Feb. 24th on the above subject. He mentions a case that had 11 doses of X rays in about five weeks from Nov. 28th, 1911, to Jan. 5th, 1912. The right lobe of the thyroid was removed on Jan. 9th, and he states that now the pulse-rate varies from 92 to 120, whereas, before the operation, it varied from 120 to 204. I would like to suggest that the good result is largely due to the application of the rays rather than to the operation.

Since 1905 I have treated 31 cases of Graves's disease with X rays alone in private and in hospital practice. Of the 14 private cases 10 are cured and the remaining 4 practically well. Of the 17 hospital cases 7 are cured, 4 are markedly relieved, 4 show very little relief, 1 was operated on with a fatal result after five applications, and 1 has only started treatment. Altogether, therefore, the cured and greatly relieved number over 80 per cent. I claim that no other method of treatment, surgical or otherwise, can show such good results in this most intractable of diseases.

Here in Leeds we are coming to the conclusion that the X rays is, so far, the only rational and scientific mode of treatment.

I am also interested in the microscopical findings of the lobe of the thyroid that had been exposed to the rays. If it had been removed later these changes would have been more marked.—I am, Sir, yours faithfully,

LEO. A. ROWDEN, M.B., C.M.,
Honorary Director, Electro-Therapeutic Department,
Feb. 25th, 1912. General Infirmary, Leeds.

WEEKLY PAYMENTS AT ST. BARTHOLOMEW'S HOSPITAL: A CORRECTION.

To the Editor of THE LANCET.

SIR,—Considerable inconvenience has been caused by a statement which appeared in the press on Feb. 22nd, implying that St. Bartholomew's Hospital is offering treatment "for a weekly payment of £2."

I wish to say that no such offer has been made, nor has there at any time been a suggestion of making an offer of the kind. The statement is therefore entirely without foundation so far this hospital is concerned, and I can only assume it was made under a misapprehension.

I am, Sir, yours faithfully,

Feb. 24th, 1912. THOMAS HAYES, Clerk.

UNICELLULA CANCRI.

To the Editor of THE LANCET.

SIR,—I have only recently read the very interesting lectures on Unicellula Cancri delivered by the late Sir Henry Butlin before the Royal College of Surgeons, and reported in THE LANCET of Nov. 25th and Dec. 2nd, 1911. An explanation of the facts put forward occurred to me some three or four years ago. It is that cancer and sarcoma (and also some of the benign growths) are due to, not a symbiotic association of a parasite and a tissue cell, but to a sort of "fertilisation" of a tissue cell by a parasite of a protozoan nature. The result is, as is said in the lectures, that a new "animal" is produced which is similar to the original cell in nature and growth in many respects, and yet, so to speak, has a strange new vitality. As the tissue cell before the process which I call "fertilisation" takes place was a *specialised* cell, so the new growth is a multiplication of that cell, and of that kind of cell only.

The chief facts in support (other than those put forward in the lectures) are three in number. 1. The workers at the Cancer Research Laboratories have shown that the cells in a beginning cancer and in the edge of a growing tumour behave for several generations like germinal cells undergoing maturation, as judged by the karyokinetic figures observed. 2. They have also shown that the blending of "white blood corpuscles" (really, in my opinion, amœboid parasites) with tissue cells can sometimes be observed in very young growths (but I understand *not* in metastases). 3. By other observers working with mice tumours it has now been conclusively proved that sometimes a carcinomatous transplantation has suddenly taken on sarcomatous characters. This last is easily understandable if we assume that under the conditions of the experiment (perhaps simulating the natural conditions suitable to the growth of débris from a naturally sloughing tumour which has naturally become lodged in a susceptible host) the reverse of the "fertilisation" sometimes occurs and the parasite itself is regenerated in a form able to attack any cell handy to it in its new host and by a new "fertilisation" sets up a new type of growth, and, if the cell of the host attacked happens to be a connective tissue cell, a sarcoma results.

According to this view there are possibly two species of parasite. One only endows the cell it fertilises with powers

of multiplying, thus giving rise to "benign" tumours. The second endows the "monstrous hybrid" with the power of dissolving other cells and tissues, and thus these "malignant" growths readily invade contiguous tissues and are able to encroach on lymphatics and blood vessels, and thus form metastases. Combine this idea with the facts put forward in the lectures of Sir Henry Butlin, and we see that it *is* a "new animal," but of such a sort as has only hitherto been foreshadowed in some of the experiments as to the fertilisation of the sperms of the sea-urchin where "fertilisation" of a nature approaching that suggested above has already been achieved experimentally.

I am, Sir, yours faithfully,
R. C. T EVANS, M.B., B.S. Lond.

Herne Bay, Feb. 26th, 1912.

FATALITIES FOLLOWING THE INTRAVENOUS INJECTION OF SALVARSAN.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Feb. 24th you publish a letter bearing the above title from "M.D." In the early months of 1911 we had frequent occasion to reply to similar alarmist reports of fatal accidents following the use of salvarsan. We do not deny that the patients whose cases he quotes all died. We should have been surprised if some of them had survived, for in the first case he mentions the patient was undoubtedly poisoned by a huge overdose of the drug. He received on Sept. 18th an intravenous injection of 60 centigrammes, and, apparently without any investigation to ascertain how much of the first dose he had eliminated, he received another full dose on Sept. 21st. Naturally he died. He was poisoned.

In the Geneva case the necropsy revealed that the patient was suffering from lepto-meningitis, *chronic* bronchitis, and broncho-pneumonia. Why, therefore, throw all the blame of his death on salvarsan? The Amiens case is like the first case quoted, in so far as apparently no trouble was taken to ascertain if the first dose had been eliminated before the second was administered. If strychnine or morphia were administered in full doses, and these full doses were repeated before the patients had eliminated the first doses, disaster would certainly follow. And yet it is admitted that both strychnine and morphia are invaluable drugs. But in their wise administration a little common sense is usually employed. It is a great and deplorable misfortune that in using or criticising the use of salvarsan ordinary intelligence, and in a far greater degree common sense, have been in abeyance in many cases.

We have now had a considerable experience of salvarsan comprising more than a hundred injections, most of which were administered intravenously. We have never had the least occasion for anxiety regarding any one of these patients. In addition, we know of close on 1400 injections which have been administered without accident by our friends. We believe most strongly that a careful technique and the choice of suitable patients will eliminate most of the risks, though we are firmly persuaded that an intravenous injection should never be given single-handed and without the careful preparation of the patient and a thorough examination of his powers of elimination.

In conclusion, we may again affirm that we regard salvarsan as one of the greatest boons conferred on suffering humanity in our time. We are, Sir, yours faithfully,

G. S. STOPFORD-TAYLOR.
Liverpool, Feb. 26th, 1912. R. W. MACKENNA.

THE TREATMENT OF TUBERCULOSIS AND THE SANATORIUM QUESTION.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Feb. 24th, p. 546, you published the names of those gentlemen who had been appointed by the Chancellor of the Exchequer to report at an early date upon the consideration of general policy in respect of the problem of tuberculosis in the United Kingdom, in its preventive, curative, and other aspects, which should guide the Government and local bodies in making or aiding provision for the treatment of tuberculosis in sanatoriums, or other institutions, or otherwise. You refrained, however, from commenting on the constitution of the committee. Will you therefore permit me to offer a few criticisms on the appointments which have been made, such criticism having been founded, not only on my own opinion, but upon the views of several prominent members of the profession with whom I have discussed the matter. No one will dispute the wisdom of the formation of such a committee, but whoever decided upon its composition was not well advised. The reference to the committee is a wide one, and therefore various schools of thought ought to have been represented, instead of which every member of the committee is known beforehand to be pledged to support the sanatorium movement. This fact alone must serve to weaken any recommendations which the committee may arrive at. Further, there are some remarkable omissions; there is no physician on the committee who is a consulting physician to or on the senior acting staff of one of the special hospitals for diseases of the chest in London. As Mr. Clement Lucas has pointed out in the *Times*, no surgeon finds a place on the committee. Surely, also, the scientific side of the question should be represented, and a member of the medical profession who has devoted himself mainly to laboratory work should also have been selected. Finally, the experience of general practitioners, who have been obliged to treat patients in their own homes, would have been of the utmost value. For these reasons, Sir, among others, I venture to utter a protest against the composition of the committee, feeling sure that the members of the profession generally would look with more favour on the work of the committee had the members thereof been selected with a more open mind. As the committee is constituted at present it is almost comparable to the Christian Scientists forming a committee of their own number to pronounce upon the value of their cult.

In the *Times* of Feb. 20th appeared an excellent and suggestive letter from Dr. E. J. Steegmann pleading for a continuance of the research on tuberculosis commenced by the Royal Commission. It is sincerely to be hoped that his contentions will be acted upon, but unless the constitution of the Chancellor's committee be modified there is reason to fear the free and liberal spirit required will be wanting.

I am, Sir, yours faithfully,
Feb. 26th, 1912. F.R.C.P.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—On p. 537 of your current number Dr. W. J. Le Grand, after quoting the words of the first paragraph of Part II. of the Fourth Schedule of the above-mentioned Act—viz., "(1) Medical treatment and attendance for any persons dependent upon the labour of a member"—asks some questions thereon.

The word "dependent," *as used in this Act*, is defined in Section 79, and may comprise very much more than the "wives and children" of insured persons, particularly if the far-reaching definition given in Section 13 of the Workmen's Compensation Act be resorted to. This statement probably will answer Dr. Le Grand's first question as it now stands; but if we shift the word "only" (in the question) so as to make it the seventh instead of the fourth word, the question will read thus: "Does it apply to relatives of *only* members of approved societies?"—an entirely different question, but the one which, I think, Dr. Le Grand really means to ask. It will be found that, with one exception, "additional benefits" are confined, and intentionally so, to those who are "members" of approved "societies." This is made clear by the very wording—not only of the first paragraph itself "..... members" ["members" of what?], but also by that of the many sections in the Act in which "additional benefits" are mentioned.

An approved society may give "additional benefits" to insured persons who are "members" of that "society" if there happens to be a sufficient surplus following a Treasury valuation of the assets and liabilities of the society, which valuation may be made at irregular times and after irregular intervals, although, presumably, every three years—Sections 36 and 37. Observe "society" and "member."

The proviso to Section 9 (1) confers a favour which, although not specifically an "additional benefit," is practically such, but the favour is confined to "members" of approved societies. Section 9 (2) deals with cases (of reduction of

rate of benefit) as to which a society *or* the Insurance Committee administers the benefit, and the society *or* Insurance Committee has to make provision for the grant of *additional* benefits, whatever these may be, which are mentioned in the long list of such which is given in Part II. of the Fourth Schedule; and for these the society *or* the Insurance Committee will have to pay. This is the exception in which it is stated clearly that the Insurance Committee has to administer some "*additional* benefits." All other sections contemplate the *society* paying for any of the additional benefits in the list.

All this seems to point to the idea that the original, central, and controlling method of working the entire Act was by and through the societies, and the societies alone. Section 13 deals with those only who are "members" of an approved society. Section 14 (1) "..... additional benefits shall be administered by the society or branch of which the persons entitled thereto are *members*, *except* where such benefits are *in the nature of medical benefits*, in which case they shall be administered by, and through, the Insurance Committees."

Now, notwithstanding that the 14 paragraphs in Part II. of the Fourth Schedule are headed "Additional Benefits," it yet may become a question whether paragraph 1 can be said rightly to deal with a "medical benefit" at all, although it mentions something "in the nature of a medical benefit." The paragraph says "medical treatment and attendance," and not "medical benefit," as we find in Section 8 (1) (a) and Section 15 (1). To the extent that paragraph 1 may be said to deal with "additional benefit," the societies would administer for their "*members*"; to the extent that it is concerned with what is "in the nature of medical benefit," the societies are excluded and the Insurance Committees alone take up the work—i.e., *pay*. There is no definition in the Act of the phrase "medical treatment and attendance."

Elements of doubt might creep into Section 15 (2), Section 15 (4), and Section 17 (1). Thus, Section 15 (1) the Insurance Committee, for the purpose of medical benefit, makes arrangements with practitioners, &c.; (2) says that the arrangements shall secure that insured persons shall be attended by practitioners with whom arrangements are made, but it does not exclude the possibility that the arrangements may secure something additional, such as subsidiary arrangements for "medical treatment and attendance" on those who may happen *not* to be insured—e.g., "dependents" of those who *are* insured. Again, Section 15 (4), which mentions "*persons*" (not "insured persons" nor "members") entitled to receive "medical attendance and treatment," might be said to include "dependents." And finally, Section 17 (1), which deals with *sanaterium* benefit being extended to dependents of insured persons, says that in such a case the Insurance Committee shall arrange "for the treatment of such dependents." It does not say "for the sanatorium treatment" or "for such treatment," and he would be a bold man who would fly in the face of the plain meaning of words as they have been been arranged and declare that, "of course, *sanatorium* treatment is meant." If sanatorium treatment was meant it ought to have been stated, and since the marginal note is no part of an Act of Parliament, the marginal note here cannot be prayed in aid. A document must be interpreted as it is worded, and not as something else which the framer may have intended but did not express.

Whatever body, whether Insurance Committee *or* society, arranges the "rate of remuneration" for the work mentioned in paragraph 1 of Part II. of the Fourth Schedule with the practitioners (if any such will be forthcoming for the purpose) will have to pay.

I am, Sir, yours faithfully,

Lincoln's Inn, Feb. 26th, 1912. BERNARD O'CONNOR.

To the Editor of THE LANCET.

SIR,—We, the undersigned, being medical officers of Medical Missions in Great Britain and Ireland, beg to declare that we believe that the "National Insurance Act" will affect medical missions adversely in the following ways:—

1. Patients will not be allowed to choose mission doctors unless such doctors are on an approved panel, and there appears to be but little chance that these salaried officers will find a place on such a panel.

2. Subscriptions must necessarily decrease as the usual subscribers to medical missions will find it difficult or impossible to pay their share of the insurance contribution and subscribe to a charity.

3. The personal relationship between doctor and patient, which is a prominent factor in medical missions and a helpful part in the progress of the case, will to a great extent be lost when the patient is treated under contract practice.

We are, Sir, yours faithfully,

SIDNEY BOYD, M.S., F.R.C.S.
H. J. BUMSTEAD, M.B., B.C.
WILLIAM GAULD, M.D.
PERCY LUSH, M.B., Ch.B.
JOHN LONG, M.D.
H. A. MOODY, M.R.C.S., L.R.C.P.
W. G. MACDONALD, L.R.C.P. & S.
S. S. MCFARLANE, L.R.C.P. & S.
R. FOSTER OWEN, M.R.C.P.
W. SHRUBSHALL, L.R.C.P. & S.
JOHN STANSFELD, M.R.C.S., L.R.C.P.
G. O. TAYLOR, M.B., M.R.C.S.
P. D'ERF WHEELER, M.D., F.R.C.S.
C. VOSPER, M.R.C.S., L.R.C.P.

THE CHOLERA EPIDEMIC.

(FROM THE BRITISH DELEGATE TO THE CONSTANTINOPLE BOARD OF HEALTH.)

A SOMEWHAT prolonged absence from Constantinople has prevented me from continuing the record of the cholera epidemic in this and adjoining countries from the point to which it was brought in my last letter on the subject.[1] The excellent summary of the epidemic, however, which appeared in the Annus Medicus on Dec. 30th, 1911, has to a great extent filled the gap, and it only remains to add the following few additional details to supplement that summary and bring the record down to the present date.

Cholera in Russia.

The 1911 epidemic of cholera in Russia was an exceptionally mild one. It came to an end on Oct. 30th (Nov. 12th). The total number of cases for the whole Russian Empire was put at 3313, and that of deaths at 1596. These figures are in striking contrast with the 216,091 cases and 101,002 deaths recorded in the 1910 epidemic. They may reasonably justify the hope that the cholera infection has now lost most of its virulence in Russia, and that there may perhaps be no revival of the disease there in the coming summer. The epidemic of last year was almost entirely confined to the valley of the Volga and some of the Caucasian provinces.

Cholera in Constantinople.

The epidemic here rapidly declined (after the date of my last letter), as shown by the following figures:—

Week ending Sept.	4th	324	cases,	155	deaths.
,,	,,	,,	11th	258	,,	145	,,
,,	,,	,,	18th	256	,,	140	,,
,,	,,	,,	25th	131	,,	91	,,
,,	,,	Oct.	2nd	181	,,	97	,,
,,	,,	,,	9th	179	,,	119	,,
,,	,,	,,	16th	52	,,	48	,,
,,	,,	,,	23rd	15	,,	6	,,
,,	,,	,,	30th	5	,,	1	,,

The totals since the beginning of the epidemic, on May 21st, were 2619 cases and 1484 deaths. The outbreak was rather more severe and more prolonged than that of 1910. The above figures do not include cases and deaths occurring among the troops in the capital. Such cases continued to occur in the garrison until the end of the year and well on into January. As recently as Jan. 14th one case, and on the 17th two cases were seen among the Constantinople troops, in spite of the cold weather prevailing at the time. A revival of the disease in the spring in this city must be regarded as almost certain.

Cholera Elsewhere in Turkey.

It will be impossible to give in detail, even if space permitted, the history of the epidemic in the Turkish provinces.

[1] THE LANCET, Sept. 16th, 1911, p. 853.

The returns received have been incomplete and irregular. The following figures have been officially published. It will be seen that the bulletins were issued at very unequal intervals, but the figures have a relative value sufficient to justify their publication. Before August 21st the bulletins gave no totals for the whole country. From that date onwards the totals were as follows:—

Bulletin of	August	21st	... ...	163	cases,	152 deaths.
,,	,,	22nd	... ...	107	,,	124 ,,
,,	,,	22nd (bis)	...	178	,,	151 ,,
,,	,,	23rd	... ...	262	,,	228 ,,
,,	,,	28th	... ...	86	,,	89 ,,
,,	,,	30th	... ...	162	,,	115 ,,
,,	,,	30th (bis)	...	155	,,	139 ,,
,,	Sept.	4th	... ...	188	,,	228 ,,
,,	,,	6th	... ...	164	,,	222 ,,
,,	,,	6th (bis)	...	402	,,	607 ,,
,,	,,	11th	... ...	352	,,	335 ,,
,,	,,	11th (bis)	...	550	,,	560 ,,
,,	,,	16th	... ...	207	,,	210 ,,
,,	,,	16th (bis)	...	277	,,	285 ,,
,,	,,	19th	... ...	303	,,	348 ,,
,,	,,	19th (bis)	...	293	,,	270 ,,
,,	,,	23rd	... ...	358	,,	338 ,,

The above figures referred to no clearly defined periods of time Where two bulletins were issued on the same day they contained fresh figures (usually for different parts of the country), and the figures did not overlap. After Sept. 23rd an attempt was made, but not very successfully, to publish records at more or less fixed intervals, as shown in the following bulletins:—

Date of bulletin.	Period covered.	Cases.	Deaths.
Sept. 30th	Sept. 15th to 23rd ...	557 ...	682
Oct. 8th	Sept. 23rd to Oct. 1st ...	489 ...	555
,, 18th	Oct. 2nd ,, ,, 10th ...	426 ...	604
,, 27th	,, 11th ,, ,, 19th ...	519 ...	527
Dec. 10th	,, 19th ,, Dec 1st ...	1006 ...	1078
,, 15th	Dec. 1st ,, ,, 8th ...	32 ...	29
,, 26th	,, 8th ,, ,, 18th ...	41 ...	933
Jan. 6th, 1912	,, 18th ,, ,, 30th ...	34 ...	34
,, 10th, ,, ...	,, 30th ,, Jan. 6th ...	37 ...	49
,, 24th, ,, ...	Jan. 6th ,, ,, 21st ...	53 ...	50

The rise in deaths in the bulletin for Dec. 8th to 18th was due to a severe outbreak of cholera among pilgrims at Mecca, 651 out of the 933 deaths figuring in that bulletin being ascribed to that city. But this figure was itself below the truth. From information received from the Board of Health's officials in the Hedjaz towns it may be gathered that the following has been the course of the cholera epidemic in that province in recent months.

The first cases in Mecca were seen on Sept. 1st, when three Javanese pilgrims from Singapore were found to be ill with the disease. The epidemic rapidly gained ground, and by Oct. 1st 366 cases and 329 deaths had been recorded. For the next seven weeks there were few or no fresh cases; but on Nov. 21st, when the fêtes of Kurban Bairam were drawing near and the number of pilgrims at Mecca was approaching its maximum, cholera reappeared. In a week over 200 fresh cases had occurred, and by Dec. 20th the totals (including the September returns) amounted to 1648 cases and 1565 deaths.

In Medina the disease was first seen on Sept. 7th, when the bodies of two pilgrims from Malibar were found dead, and death was shown to have been due to cholera. These men had come from Mecca, so that apparently Medina obtained the infection from that city and not from the north, although a few cases of cholera were occurring in Damascus at about that time. The disease did not spread very rapidly (the numbers of pilgrims in Medina would be small at that period); by Nov. 19th 190 cases and 157 deaths had been recorded. No cases occurred subsequently, and Medina seems to have escaped reinfection by the pilgrims returning from Mecca after the fêtes. No cases occurred also at the Tebuk lazaret on the Hedjaz railway, and it is noteworthy that on this occasion cholera does not appear to have spread northwards by land from Mecca, though many cases (about 30) occurred among pilgrims arriving at The Tor lazaret by sea from Jeddah and Yanbo. At Jeddah 323 cases and 310 deaths were recorded between Dec. 2nd and 25th.

At Damascus 1 case of cholera occurred in August (in a pilgrim from Angora); in September the disease became epidemic there; and between Sept. 8th and Nov. 5th 143 cases and 115 deaths had been registered.

Mesopotamia and Irak-Arabi (the regions round the north end of the Persian Gulf) were also visited by the disease. In the Bagdad vilayet 492 cases and 345 deaths were recorded between May 29th and Oct. 28th. (In the previous winter 819 cases and 723 deaths were registered in this vilayet between Oct. 16th, 1910, and Jan. 2nd, 1911.) In the Basra vilayet, after a few cases in July, cholera reappeared on Oct. 20th, and between that date and Oct. 27th 366 cases and 260 deaths occurred there. In the Bahrein Islands some 200 or 300 deaths from cholera were recorded in the months of November and December.

The latest bulletin for the whole of the Turkish Empire, bringing the returns down to Jan. 21st, shows that cholera was then still present at Janina, Loros, Biredjik, Aintab, Adana, Tarsus, Angora, Panderma, Hodeidah, Acre, and Kharput (or in the neighbourhood of these places)—that is to say, the infection was still present in such widely separated regions as Albania, Asia Minor, Syria, Palestine, and the Yemen. Later telegrams from Aleppo also show that cholera exists there.

Cholera in other European Countries.

For the present cholera is quiescent in European countries other than Turkey. The three last bulletins from Italy state that in the week ending Dec. 24th 35 cases and 14 deaths were recorded, in that ending Dec. 31st 6 cases and 1 death, and in that ending Jan. 7th no cases or deaths. All these cases and deaths had occurred in the Caltanisetta, Girgenti, and Syracuse provinces of Sicily, and none on the mainland.

An official statement was recently issued by the Austrian Government to the effect that during the year 1911 88 cases of cholera and 40 deaths were registered in the whole of Austria. These were distributed as follows: 6 cases and 3 deaths in Lower Austria (including Vienna); 2 cases and 1 death in Styria; 70 cases and 32 deaths on the coast (including 42 cases and 16 deaths in Trieste); and 10 cases with 4 deaths in Dalmatia (at Cattaro and Arlu). The totals for Hungary are not given; the disease was still present there in December; between Dec. 10th and 16th 19 cases and 12 deaths were seen in four different places in Hungary, and between Dec. 17th and 23rd 2 cases and 1 death.

Constantinople, Feb. 14th, 1912.

MOTORING NOTES.

(FROM A SPECIAL CORRESPONDENT.)

Concerning Various Auxiliary Methods of Suspension.

Although the ordinary laminated spring fulfilled its purpose as regarded the horse-drawn vehicle, the advent of the modern motor-car and the high speeds consequent on its use have called for a further device to take up the vibrations occasioned by the rapid motion, especially on bad roads. These vibrations, the result of road inequalities, are due to the consequent rebound. Many attempts have been made to overcome these drawbacks, which cause discomfort to car passengers and slipping of the tyres on the road with its excessive wear of the tyres. Elastic spring shackles, such as are fitted on the Daimler, Rover, and Standard cars, are a favourite means. The "Hobson," made by Messrs. Hobson, Limited, of Vauxhall Bridge-road, is of this type, and so is the "Amortisseur J. M.," sold by Messrs. Jacquet, Maurel, and Condac, of 92, Gloucester-road, London. These can be fitted without modification to the existing framework of almost any make of car. The last-named shackles are enclosed in a cylindrical casing, which protects against the entrance of dirt and helps also to resist any tendency towards side-play. The "Telesco," made by the Polyrhoe Carburetters Company, of 144, Great Portland-street, combines, in addition, a sort of liquid dash-pot, a method employed on many kinds of machinery, in which work is absorbed to neutralise the rebound.

Practically it is the rebound that causes the greater part of the discomfort. An ideal solid dash-pot method has been introduced in the Gabriel Rebound Snubber, sold by Messrs. Brown, Brothers, Limited, of Great Eastern-street, London, E C. This consists of a half-circle base secured to the frame

of the car by a clamp with a set screw; the other half of the circular base is suspended on a stud and sleeve, around which is a coil spring. The base is encircled by four coils of Balata belting, faced with a flexible metal band and enclosed in a dust-proof case. The belting is fastened to the axle by an adjustable clamp. When the car strikes an obstruction the springs compress, the expansion of the coil spring takes up the slack in the Balata belting, and as the spring starts to rebound, the coils of metal-faced belting passing over each other create a friction that increases as the coil spring compresses, thus steadying the car-springs and really making the car "forget to jar." I tried the snubber on a road after having driven over the same route on a car not fitted with it, and noticed a great difference; bumps previously felt were conspicuous by their absence, and the deadening effect to rebounds was most marked.

The Atlas Triple Expansion Pulsating Tyre Pump.

The old saying that "the luxuries of one age are the necessities of the next" certainly applies to motoring accessories. A few years ago most motorists had to pump up their tyres by hand, and but few indulged in labour-saving mechanical contrivances. Now the hand inflation of tyres is being replaced by less laborious devices. A turn at the pump may be invigorating as exercise, but it is inconvenient when engaged on a professional round. Motoring doctors, therefore, will welcome the pulsating pump, recently introduced by the Atlas Non-puncture Inner Case Syndicate, Limited, of High-street, Kensington. All that is needed is to remove a sparking plug and to turn the pump into the exposed tapping by hand. The union nut is attached to the top of the pump, and the screw hose coupling to the tyre stem; the engine is started and the air-gauge shows when the desired pressure has been obtained. There is no need to stop the engine when changing to another tyre. The pump can be attached to any car in less than three minutes, and will inflate a tyre in less than four. The only point to remember is to run the engine slowly, for the pump will not operate at its full efficiency if the engine is permitted to race.

Concerning Carbonisation.

The deposit of carbon on the piston of a petrol engine is one of the commonest causes of pre-ignition and "knocking," and occurs sooner or later with all internal combustion motors. The length of the period of immunity depends greatly, if not absolutely, on the care of the owner in regulating the quantity of lubricating oil that his motor receives, though its quality is also a factor. Curettings from pistons and cylinder walls have shown, in addition to carbon deposit, a certain amount of road grit, which might be obviated by an efficient filter over the air intake. Carbon removers have been introduced, but it is as well to adjust the flow of lubricating fluid to the minimum needed by the engine prior to experimenting with them. If efficacious, they are simpler than dismantling the engine to scrape the piston. Still, the use of a good brand of lubricant (such as the products of the Vacuum Oil Company, Messrs. Duckham and Co., Messrs. Wakefield, and Messrs. Butterworth), and *not more than is needed of it*, is preferable. An up-to-date means of rendering unnecessary the removal of the cylinder covers is the oxygen jet ignition, which consists of opening all the available orifices and directing a jet of flame and oxygen gas on all the carbonised surfaces. This method, which is known as Watkin's patent, can be carried out at the premises of Messrs. Sully and Co., Limited, 10, Old Town Clapham, S.W. I understand that other depôts for this treatment will shortly be available.

A Useful Motor Glove.

The Continental Tyre and Rubber Company, Limited, who are probably known to all motorists as makers of excellent tyres, also produce a comfortable motor glove, with a palm of leather and a back of a special waterproof material. These gloves are comfortable and keep the hands perfectly dry.

The Daimler Sliding Sleeve Engines.

Those interested in this type of engine should write to the Daimler Company for a copy of a little booklet recently issued entitled, "Some Points Concerning the Daimler Sliding Sleeve Engines." This explains in detail the working of these engines and their advantages, and includes drawings to show the operation of the sleeves.

The De Dion Bouton Motor Carriages for 1912.

THE 1912 catalogue of Messrs. De Dion Bouton, Limited, which has just been issued, is above the average level of such publications. In addition to illustrations of the numerous types of their carriages it contains interesting descriptions of the structure of their cars, which can be read with advantage by the owners of any make of car.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Health of Liverpool.

THE medical officer of health's latest report to the health committee showed a considerable fall in the annual rate of mortality. The rate was 19·9 per 1000 of the inhabitants, as compared with a rate of 22·6 per 1000 a year ago; or a decrease of 37 in the total number (288) of deaths registered during the week. It was inevitably among the aged and the young that the mortality predominated; 58 persons who had reached the age of 70 years, and 81 not exceeding a year old being cut off. The principal causes were respiratory and tuberculous diseases, chiefly the former. In the corporation hospitals last week there were 632 patients, the largest number and the most serious cases being those of phthisis.

A Wireless Telegraphy Station at the University of Liverpool.

Unmistakable evidence of the progressive character of the University is furnished by the fact that a wireless telegraphy station has been installed in connexion with the electrical engineering department. It is an experimental station, intended to enable students to obtain some practice in the operation of the system. An aerial conductor, 150 feet high, with a horizontal length of about 600 feet, has now been erected between the central tower above the electrical engineering laboratories on the west side of Brownlow-street and the Victoria Tower of the University in Brownlow-hill. The apparatus has been designed by Professor Marchant and constructed by his staff of students. It has received the official recognition of the Postmaster-General.

West Derby Guardians and the Certification of Pauper Lunatics.

At the recent meeting of the West Derby board of guardians approval was given to a recommendation of the finance committee that in the event of a medical practitioner being called in at Mill Road Infirmary to certify cases of detention under the Lunacy Act only the services of medical men residing in the union shall be obtained. This resolution partakes of the nature of a "pious opinion" on the part of the guardians, as it really rests with the magistrate, on duty for the occasion, to "call to his assistance" any qualified medical man whom he may desire, even though he may not have "paid rates in the union."

Banquet to Sir William and Lady Lever.

It has been arranged by the staff of the Liverpool School of Tropical Medicine to entertain Sir William and Lady Lever at dinner on their return from South Africa. The dinner will take place at the Adelphi Hotel this week. The Earl of Derby (Lord Mayor of Liverpool and honorary Vice-President of the school) has kindly consented to preside. Sir William Lever is the chairman of the School of Tropical Medicine.

The Fellowship of the Royal Society and the University of Liverpool.

Liverpool is much gratified at the selection by the Royal Society of two of its professors, Professor Benjamin Moore and Professor Robert Newstead. The former is the Johnston professor of bio-chemistry at the University of Liverpool. He is distinguished for his researches in physiological chemistry, especially in the domain relating to the equilibrium and metabolism of cells. Professor Moore has made important advances by his application of physico-chemical methods to the solution of biological problems. He is one of the joint editors of the *Bio-Chemical Journal*. Professor Newstead

occupies the Dutton memorial chair of entomology at the University and has done important work in connexion with the School of Tropical Medicine.

Feb. 27th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Sex of School Medical Inspectors.

THE Lancashire Education Committee at its recent meeting decided to advertise for a school medical inspector. A discussion took place as to whether female inspectors should be debarred from applying. It was pointed out that a medical inspector for the county authority was somewhat different from that of a medical inspector of a county borough. The county inspector had a great deal of hard travelling to do and many extra difficulties to contend with. It was decided to confine the appointment to male applicants.

Day Nurseries.

An institution such as the Salford Day Nursery for Children, which has carried on its work for 22 years, and which is open each day except Sundays, for taking care of babies who cannot walk at a charge of 4*d.* daily, and for older children at 2*d.* a day, is worthy of support from the public. The attendance averaged about 20 a day, a total of 4998 during the year. The children's pence amounted to £54 and the subscriptions and donations to £74.—At the nineteenth annual meeting of the Manchester Day Nursery, which is situated in the crowded centre of Hulme, it was stated that last year there were 2912 attendances and during the past 14 years a total of 38,382. The Poor-law contribution to the funds is, with the approval of the Local Government Board, to be quadrupled. At this institution the charge for children is 3*d.* a day. One speaker at the meeting eulogised "the application of life-saving methods such as this," pointing out at the same time that there is a direct relation between the rate of infant mortality in a great city and the number of mothers who had to go out working with no one to take proper care of their children in their absence. Another speaker pointed out that the Home for Lost Dogs had received more support during the year than the Hulme Day Nursery. There were about 3000 attendances yearly, and each child received three meals, the cost of each of which was barely ½*d.*

Henshaw's Blind Asylum: its Work and its Financial Needs.

At the annual meeting of the subscribers to Henshaw's Blind Asylum it was stated that there was again a heavy deficiency on the year's working. The asylum gives the very best education, both elementary and technical, to 200 boys and girls and adults in the schools, and in addition the asylum authorities place within the reach of their pupils the means of livelihood which the blind people themselves above all things desire. In their own workshops they have 60 blind men and women, most of whom lived in houses of their own. They also gave weekly grants, amounting in the aggregate to £1000 a year, to aged and infirm blind people who were unable to work. About one-half of the blind people in the country lost their sight after reaching adult age, often after they had settled down in homes of their own with wives and children. The asylum educated, trained, and employed close upon 400 blind people ranging from infancy to old age. The annual expenditure was £2984, with a deficiency on the income and expenditure account of £978, and an actual deficiency on the year of £1169. Hence the necessity for an appeal for more funds if the usefulness of the institution is to be maintained.

Feb. 27th.

NEWCASTLE-ON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

The College of Medicine.

THE annual meeting of the council of the University of Durham College of Medicine was held recently, Professor Sir G. H. Philipson, President of the College, being in the chair. Others present were Professor P. Bedson, Professor R. Howden, Professor T. W. McDowall, Mr. Cecil Cochrane, Mr. Alderman Cromie, Mr. J. E. Gibson, Mr. W. J. Sanderson, and Dr. J. T. Merz. The annual report of the council was approved for submission to the annual court of governors. Referring to the year's work, the report stated that the work had been carried on in compliance with the regulations of the Board of Education, and it was expected that a substantial grant on the year's work would shortly be paid by the Board. Further, it was stated that an agreement had been arrived at between the honorary staff of the Royal Victoria Infirmary and the council of the College, by which it was hoped that the clinical instruction in the infirmary would be recognised for the purposes of a grant by the Board of Education. The result of an appeal for funds to pay off the debt on the new buildings and to provide endowment had been disappointing. Several changes in the staff were notified. Dr. T. Eustace Hill, medical officer of health of the county of Durham, succeeds Dr. H. E. Armstrong in the chair of public health. Dr. F. A. Bainbridge is now professor of physiology, vice Sir Thomas Oliver, who has resigned this chair and has been appointed adjunct in the chair of medicine, already held jointly by Sir G. H. Philipson and Dr. David Drummond. Professor Bainbridge's appointment is the first instance of a whole-time professor of physiology in Newcastle.

Royal Victoria Infirmary.

The annual court of the governors of the Royal Victoria Infirmary was held on Feb. 24th. There was a large attendance under the presidency of the Lord Mayor, Sir William Stephenson. The reports from various committees were received and adopted. The Lord Mayor, in moving the adoption of the general report, alluded to the illness of Sir Riley Lord and to the death of Lady Oliver. It was agreed to send letters of condolence to Sir Riley Lord and to Sir Thomas Oliver. Sir William Stephenson further pointed out that for the first time the current income had met the current expenditure, and that the deficit of £3000 of last year had been turned into a surplus of £856. The most satisfactory feature about the income was that the amount of money subscribed by the workmen continued to increase year by year. Reference in one of the reports occurred to a new admission scheme, which provides that instead of admissions coming through various members of the honorary staff, all admissions shall be made through one portal and one medical authority. This would so regulate the system of admissions that each patient would get a fair turn, having strict regard to the question of urgency. In future, it was intended to make strict inquiry into the social condition of the patients, so that those who could afford to pay for outside medical aid should not be allowed to abuse the benefits of the hospital and keep out deserving cases. The cost of the new scheme would be about £4500, and it would be complete in about six or eight months. In the analysis of the subscriptions committee, Mr. Charles Irwin observed that the Northumberland miners during the past year had contributed £4232, and the Durham miners £4619. From the county of Durham, however, they had had 425 more cases than from Northumberland, and for these additional cases Durham had only paid £387. During the last six years there was a deficiency of £7125 in the receipts for the cases received from Durham. In reply to a question, Mr. Irwin stated that the miners of Northumberland paid £4 14*s.* 5*d.* per patient and the miners of Durham £3 9*s.* 10*d.* per patient. The remarks made in connexion with the new admission scheme and those above in connexion with the finance of the infirmary may be taken together and afford material for thought. It is certainly to be hoped that the new admission scheme may be able to grapple with the question of hospital abuse. Whether it will be more than a pious hope is doubtful when the remarks above quoted from the subscriptions committee are considered. The opening speech of the chairman, the statement of the finance committee that the workmen's contributions had gone up £1541 during the past year, and also that only another £1000 were needed to make these contributions into the round sum of £20,000, and the calculation of the amount subscribed per patient by different sections of the community as shown by Mr. Irwin, seem to point to the desirability of the system of coöperation by means of small weekly contributions, such as are given by the workmen of this district. The principle of contributions is proper, but there is the tendency locally to regard such contributions as "something paid to a club," and consequently necessitating a return. That

this is no mere vague idea is clear from the nature of the question asked concerning relative contributions by the Northumberland and Durham miners. Whether in these circumstances the new admission scheme will be able to work is doubtful. It may, perhaps, be remembered that I found it necessary to make observations similar to these on the occasion of the presentation of other annual reports, and the same tendency which prompted those remarks last year is to be seen in the proceedings of this year's annual court of governors at the infirmary.

Feb. 26th.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

The University of Bristol and Agricultural Research.

A SHORT time ago allusion was made in these columns to the offer made by the Board of Agriculture to the University of Bristol of a capital sum of £5000 and an annual grant of £3500, subject to certain conditions. These were the absorption of the existing Fruit and Cider Institute into the station which the Board wishes established; the local contribution of a capital sum of £5000; and the application of £300 a year, left by the late Lord Winterstoke for agricultural research, to the upkeep of the station. Lady Greville Smyth has subscribed £1000, and sums of £500 each have been promised by Lord Portman and the Right Hon. Henry Hobhouse, while other subscriptions and promises bring the total up to £3500. The balance of £1500 should be readily forthcoming in a district where the general prosperity is so closely bound up with that of agriculture.

Queen Victoria Jubilee Convalescent Home, Bristol.

At the recent annual meeting, presided over by the Lord Mayor of Bristol, Mr. F. W. Wills, the report showed that 1971 patients had been received during the year; there had been no deaths, and the great majority of patients had been much benefited. The total expenditure had been £2794 0*s.* 7*d.*, about £30 less than in the preceding year. The income for the year was £3206 6*s.* 10*d.*, consisting mainly of revenue from investments and income-tax rebate. Mr. Herbert M. Baker, chairman of the Bristol General Hospital committee, spoke of the indebtedness of this and kindred institutions to the home, which had received 680 patients from the hospital, 673 from the Royal Infirmary, 30 from the Eye Hospital, 72 from the Bristol Dispensary, and 17 from the Clifton Dispensary. He referred to the possible effects of the Insurance Act on voluntary institutions, and said that he believed the alarm felt in some quarters was largely unnecessary. The value of the home, he said, might be further gauged by the fact that the average daily number of inmates was 80, the cost per head being about £35 per annum.

An Unqualified Practitioner at the Bristol Coroner's Court.

Fortunato Vigna, describing himself as "M.D., U.S.A.," and alleging that he had a Turin degree in medicine, gave evidence at a Bristol inquest on a woman who died from malignant disease, but who had been treated by him for indigestion, constipation, and rheumatism; he also stated in his evidence that he had suspected "kidney trouble." The friends of the deceased had been induced to call in "Dr." Vigna by a newspaper advertisement of the "Cosmopolitan Homœopathic Institute for the Cure of Chronic Diseases," which, it was said, had a large and experienced staff of graduated and fully qualified assistants. Cross-examination proved that this staff consisted of Vigna and one or two other unqualified persons. It appeared that Vigna had three or four such establishments in Bristol. The jury added a rider to their verdict to the effect that frauds of this type should be suppressed.

The Bristol Medical Mission.

The annual meeting of the friends of the Bristol Medical Mission was held on Feb. 23rd. The medical report stated that 8176 patients had been treated at the dispensary, and 2087 cases had been visited at their homes. The financial statement showed an unfavourable balance of £14.

The Remuneration of Workhouse Medical Officers.

At the meeting of the Bristol board of guardians held on Feb. 23rd it was stated that three lady medical practitioners had applied for the post of assistant medical officer at Eastville workhouse. The salary is £125 per annum, with rooms and rations. After some discussion Miss H. I. Moss was elected. The Rev. A. Bray, who opposed the appointment, according to the local press, stated "that it was a cheese-paring policy which was responsible for the fearful state of chaos they had in the two workhouses. They were only appointing the lady because they could not get a man; and they could not get a man because they were not paying sufficient money."

A District Medical Officer's Salary.

At the last meeting of the Newton Abbot (Devon) board of guardians the medical officer for the Kingsteignton district applied for an increase in salary. He stated that his salary was 11*s.* 6*d.* weekly, which would hardly pay for the cost of the medicines. He added that there were very few vaccinations to be performed, and the "association nurse" attended most of the midwifery cases. Last year she attended 39 out of the 53 confinements. After some discussion the matter was referred to a committee.

The British Dental Association.

The Western branch of the British Dental Association held its winter meeting on Feb. 17th at the Devon and Exeter Dental Hospital. There was a good attendance, under the presidency of Mr. J. J. H. Sanders, of Barnstaple. Mr. Frederick Sleep (Plymouth) read an amusing paper on the Dental Aspect of Idiosyncrasy, Susceptibility, and Responsibility. Mr. R Willcox (Clifton) contributed an interesting paper on Pyorrhœa. Dr. Brennan Dyball, the anæsthetist to the Devon and Exeter Hospital, gave an interesting demonstration on the Combination of Ethyl Chloride and Ether for Dental Operations.

Enteric Fever and Shell-fish.

The medical officer of health of Devon, Mr. G. Adkins, in his report states that during the past quarter 31 cases of enteric fever were notified, and of these 3 were due to eating raw cockles.

Royal West of England Sanatorium, Weston-super-Mare.

The annual meeting of the subscribers of the Royal West of England Sanatorium was held on Feb. 17th. The medical report stated that during 1911 the patients admitted numbered 2045 (1037 men, 1008 women). This number was 277 less than in 1910, and the reduction was due to the facts that the sea-water baths were unavailable for six weeks, and that some patients stayed longer than usual. 1496 patients remained in the institution for 14 days, while the remaining 549 remained for longer periods up to three months. The financial statement showed that the income amounted to £4482, and that the sanatorium was free from debt.

Isolation Hospitals for Devonshire.

At the meeting of the Holsworthy (Devon) rural district council, held on Feb. 21st, the medical officer of health, Mr. W. G. Gray, reported that a scheme had been proposed by which Devon would be divided into four or five sanitary districts, each provided with an isolation hospital, and probably a medical officer of health would be appointed for the districts. Mr. Gray added that the Local Government Board inspector, Dr. R. J. Reece, had commented strongly on the need of isolation hospitals in the county, for between Plymouth and Devonport and Barnstaple there is practically no isolation hospital, and no isolation accommodation exists at Tavistock, South Molton, Okehampton, Broadwoodwidger, or in the Bideford rural district.

The West Cornwall Infirmary, Penzance.

Sir Clifford Cory, M.P., has sent a cheque for £400, being his first year's salary as a Member of Parliament, to the West Cornwall Infirmary. The gift will be very acceptable, as an adverse balance of about £300 exists against the charity, and funds were required for refurnishing and decorating the institution.

The Victoria Hospital, Swindon.

At the annual meeting of the subscribers of the Victoria Hospital, Swindon, it was stated that £1000 had been

bequeathed by Miss Bell, of South Marston. The King Edward Memorial Fund brought to the institution an endowment of £1080.

Feb. 27th.

WALES.

(FROM OUR OWN CORRESPONDENT.)

The Welsh National Memorial.

THE executive committee of the Welsh National Memorial has appointed as chief medical director Dr. Marcus S. Paterson, at present medical superintendent of the Brompton Hospital sanatorium at Frimley. One of his first duties will be to prepare a scheme for the provision of sanatoriums for the whole of Wales and Monmouthshire. Progress is being made towards the acquisition by the committee of the West Wales Sanatorium at Allt-y-Mynydd, about six miles from Lampeter, in Carmarthenshire. This institution, which has accommodation for 20 patients, has been in active working since July, 1908, the annual expenditure averaging £1500. It is situated on the slope of a hill, 850 feet above sea level, in grounds 13½ acres in extent. It is constructed of stone obtained in the neighbourhood, and is well designed for its purpose. The initial cost, exclusive of the land, was about £400 per bed. The land is held on lease for 999 years at an annual rental of £11 4*s*. It is proposed, if the institution is taken over by the memorial committee, that the sum of £10,000 shall be credited to the memorial fund from the three counties of Carmarthen, Cardigan, and Pembroke. The conditions on which the sanatorium committee suggests that the sanatorium should be transferred are that the management, together with all obligations as regards staff and buildings, should be taken over by the memorial committee from July 1st next, and that until adequate provision for sanatorium benefits for the whole of Wales and Monmouthshire is provided priority of admission should be reserved for patients coming from the three counties named. It is further suggested that life governors of the sanatorium should be asked to forego their claims to recommend patients for treatment in the institution. The Cardiff board of guardians is taking definite steps to provide for those under its charge a sanatorium in the neighbourhood of Penarth, and at some distance from the Cardiff workhouse. The question of special sanatorium provision is being considered by boards of guardians in other parts of Wales, but in view of the contemplated action of the memorial committee, that body has asked the various boards to delay taking action in the direction indicated.

Aberdare Isolation Hospital.

Although the town of Aberdare has an industrial population of over 50,000 persons it is very ill-provided with accommodation for isolating cases of infectious disease. At the time of a small-pox scare in 1873 a corrugated iron building was erected, but until the appointment of Dr. Morgan Rees as medical officer of health some eight years ago it was hardly ever used, although cases of infectious disease which ought to have been removed were rarely absent from the town. Dr. Rees made good use of the hospital during his term of office, and demonstrated that the inhabitants were quite willing to take advantage even of the meagre accommodation it afforded. He also proved the need for a larger institution, and one more in accordance with modern ideas. Pressure from their own medical officer of health, added to the insistent demands of the Glamorgan county council, at last induced the members of the urban district council to take steps to provide a more suitable hospital, and a few years ago plans were chosen after competition among architects, and a site was decided upon. The consent of the Local Government Board was not at first obtained for the loan it was intended to procure, but after falling in with some of the suggestions of the Board a second attempt is now being made, and a formal inquiry has been made on behalf of the Board by Dr. S. W. Wheaton. The proposed site is the property of the council, and it is expected that the buildings will cost about £20,000, a sum equal to £400 per bed. The plans show accommodation for three diseases. For scarlet fever patients there are to be 20 beds, including four in a convalescent block; for diphtheria, 18 beds, also including four for convalescents; and for typhoid patients 8 beds are provided. In addition to these there is provision for four patients in an observation block.

Feb. 27th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Carnegie Trust for the Universities of Scotland.

THE annual meeting of the Carnegie Trust for the Universities of Scotland was held in London on Feb. 22nd. Lord Elgin presided, and in presenting the report referred in the first place to the fact that the work of the past year completed the first decade in the history of the Trust. During the ten years £1,000,000 had passed their hands. The grants to the universities were fixed for quinquennial periods after visitation by a committee of the trustees, when every care was taken to discover the most urgent claims in each university. He could bear testimony to the improvements in the equipment of the universities which were visible at each visitation. With regard to the increased grants promised by the Treasury, it was possible that the trust operations might be affected thereby, but probably more as to the direction in which assistance might be given than in alteration of the amount. The alteration in the regulations as to payment of class fees which had become necessary last year owing to the insufficiency of revenue to meet the claims had been carried out without any difficulty or friction. Beneficiaries of former years had been continued on the old system. The adoption of the report was seconded by Lord Reay, and Sir Donald MacAlister and Sir James Donaldson spoke in appreciation of the work of the scheme. The report of the executive committee for the year 1910–11 shows the total income for the past ten years to have been £1,062,931. Of this, £63,546 were expended on research, £368,288 in grants to universities and colleges, £445,373 in payment of class fees for students numbering 11,480, and £30,158 in administration. Referring to the endowment of research, the report shows that in the past year there had been no falling off in either the quantity or quality of the output of work. In the departments of biology and medicine the report of the examiner states that the standard of excellence exhibited by the beneficiaries had been higher than it had ever been since the trust came into existence. Applications for fellowships, scholarships, and grants for the year 1911–12 must be lodged on or before April 1st with the secretary of the trust. The laboratory of the Royal College of Physicians had proved an important supplement to the research scheme. The laboratory was purchased in 1903 under an agreement for five years with the Royal College of Physicians and the Royal College of Surgeons under which these bodies agreed to continue their respective annual contributions of £750 and £200 towards working expenses. This agreement was renewed in 1908 for a further period of five years. Exclusive of the capital sum of £10,000 invested in the purchase of the buildings, the total sum expended on the laboratory had been £14,011 2*s*. 3*d*., and the excess of expenditure over income which had been met by the trust under the agreement amounted to £5215 12*s*. 9*d*.

Memorial to Lord Lister.

The Lord Provost of Glasgow presided on Tuesday over a meeting to consider the subject of a memorial to the late Lord Lister. There was a large attendance, many prominent medical men being present, and it was unanimously agreed that a memorial should be erected in Glasgow, where the Listerian doctrines first took practical shape. A committee was appointed to consider the suggestions as to the form which the memorial should take, and this committee will make a private report before a public meeting is held.

Feb. 27th.

TUBERCULOSIS AND SANATORIUM TREATMENT.—A lecture on this subject will be given at the Central Hall, Renshaw-street, Liverpool, on Tuesday, March 5th, at 8 P.M., by Mr. C. H. Garland, chairman of the Benenden Sanatorium, Kent. The Earl of Derby has consented to preside, and all interested in the subject are invited. Communications may be addressed to the medical officer of health at the municipal offices, Liverpool.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Dublin Hospitals and the Insurance Act.

FOR some months past a committee, representative of the several Dublin hospitals, has been considering the probable effects of the National Insurance Act on the interests of the hospitals. In a letter published last week in the daily papers this committee invites the moral and material support of the public, declares that the subscriptions must fall off, but that the demand for service is not likely to diminish, and concludes as follows: "This crisis threatens the utility and existence of institutions the sole function of which is to alleviate stricken and agonised humanity by unremitting, unresting, and unquestioning solicitude. To prevent such a calamity we most anxiously urge the benevolent public not to relax their interest or reduce their subscriptions or gifts unless and until they are satisfied that the usefulness and needs of the hospitals have abated."

The Royal Hospital for Incurables.

The governors of the Royal Hospital for Incurables have decided to abandon the scheme of providing additional accommodation for advanced cases of tuberculosis. In view of the opposition roused among the residents in the neighbourhood, the managing committee thought it right to consult the general body of the governors, with the result stated. It is unfortunate that the beneficent scheme of the managing committee has been defeated by an opposition based largely on misunderstanding.

Death of Two Distinguished Irish Medical Men.

The deaths have occurred during the week of two distinguished Irish medical men—Dr. Henry FitzGibbon, consulting surgeon to the Royal City of Dublin Hospital, and Sir Francis R. Cruise, consulting physician to the Mater Misericordiæ Hospital.

The Tuberculosis Committee.

The constitution of the Tuberculosis Committee gives rise to some criticism from the Irish point of view. Only two members of a committee of nearly 20 are from Ireland, and these are both public officials. It is perhaps desirable that the Local Government Board and the Insurance Commissioners should be represented, but there should also be some one who could face the problem from the point of view of the practising physician.

High Death-rate in Irish Towns.

The death-rate in the various Irish towns during the month of February has been abnormally high. In the week ending Feb. 10th the rate in the Dublin registration area was 26·6 per 1000 per annum, and in Belfast it reached the enormous figure of 41·7, though it has now dropped very considerably, the last recorded rate being 26·9.

Honours for Irish Medical Men.

Two medical men have been appointed High Sheriffs for 1912—viz., Mr. J. J. O'Sullivan for the city of Waterford, and Mr. Charles McDonnell for the city of Limerick. Surgeon-General W. J. Fawcett, A.M.S. (retired), of Leecarrow, Carrick-on-Shannon, has been appointed a Deputy-Lieutenant of the county of Leitrim.

The Samaritan Hospital, Belfast.

At the annual meeting of the supporters of the Belfast Samaritan Hospital held on Feb. 20th it was reported that during the past year 529 extern and 279 intern patients had been treated. Ninety major operations were performed. There is a debt of £340 on the hospital, and strong recommendations were made by the speakers as to the importance of increased financial support for this most excellent and useful institution.

The Ulster Hospital for Women.

In aid of the new buildings of the Ulster Hospital for Women Lady Jaffé held an exhibition and sale of dolls at her house on Feb. 26th, which was a very great success, and which will considerably add to the finances of that institution.

Feb. 27th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Microsporon Disease of the Scalp in School Children.

WITHIN the last few years there have been several outbreaks of microsporon disease in Vienna public schools. Under our compulsory system of education these schools are attended by children belonging to all classes of the population, and the authorities recognising the danger of an extension of the infection invited Professor Riehl to lecture, before an audience of officers of public health, on the disease in question. The present series of outbreaks commenced in Vienna in the year 1909, and since that time over 1000 cases have been noted. Professor Riehl said that the disease was caused by the fungus called microsporon, and that a considerable epidemic of a precisely similar nature had also occurred in Paris. The general health of the affected children was in no danger, but the loss of hair in various places over the head was most unsightly. As it was important to recognise the existence of this condition as early as possible it would be necessary to examine each child in this respect. The clinical appearance of the affected head was very significant, the whitish-grey scabs and the short stumps of the broken hairs being conspicuous objects. The treatment by means of X rays and the application of a disinfectant hair lotion was simple and effective, and the necesary exposures to the X rays could be easily given in the special departments of the hospitals in Vienna. Professor Riehl advised regular inspection and notification of each case as absolutely essential for the suppression of the disease. He thought that isolation of the patients was not required, as in his opinion a dressing well applied over the head was sufficient to prevent dissemination of the infection.

The New Deaf and Dumb Institution.

In a few days the inmates of the old institution for deaf and dumb children will move into their new home, a short distance from Vienna. It will accommodate 150 boys and 50 girls, and satisfies all the requirements of modern hygiene. The old institution, which is now to be pulled down, has had a long and interesting history. In 1779, when the school was founded, it had only 12 pupils (6 boys and 6 girls), but at a later period 120 children could be received as inmates, and they were kept there until they were completely able to make themselves understood, and to earn their living. The institution afterwards served chiefly as a training school for teachers of the deaf and dumb, whilst the patients were admitted only from Vienna itself, the other towns and counties erecting separate schools for the deaf and dumb children of their own populations. Finally, the old institution accommodated only 40 boys and 20 girls. The teachers were early trained in the oral teaching of the inmates according to the so-called German method, whilst the "French" method of conversing by means of the fingers was abandoned as soon as the other system had become known. Important medical investigations into the etiology of congenital deafness and deaf-mutism were conducted in this home.

Growth of the Embryonic Heart after Separation from the Body.

In a paper read before the Gesellschaft der Aerzte, Professor Braus, of Heidelberg, who was present by invitation of this society, described experiments which he had made with the hearts of certain animals in the embryonic stage. After giving a historical sketch of the previous endeavours to make the heart live and grow after separation from the body, he said that he had been able to do so by keeping the organ in a liquid equivalent to physiological solution of chloride of sodium. He found that amphibia gave the best results. He could keep and examine the heart of the embryo of the frog in a mixture of fresh plasma from a frog with the tissue-juice of the frog. It was a very delicate operation to remove the heart from an embryo having a length of not more than one-fifth or one-sixth of an inch. In his experiments he succeeded in observing the rhythmic contractions of the organ and its growth for periods varying from three to ten days. The heart subjected to this kind of "cultivation" had no muscles or nerves, but the transmission of irritation took place by means of the plasmoderma, the fine fibres connecting the cells in the embryonic organ.

Feb. 26th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Insanity in New South Wales.

THE annual report of the Inspector-General (Dr. Eric Sinclair) sets out that the total number of insane under observation in New South Wales on Dec. 31st, 1910, was 6177, an increase of 243, a rate much above the yearly average. The proportion of insane to general population was 1–274, which is the same as the last few years. There is still an excess of patients over the available accommodation. A new asylum to be built at Orange has not yet been begun, and that opened at Norwich has merely relieved overcrowding and not removed it. The provision of temporary accommodation has seemed a lesser evil than prolonging the overcrowding, and this has had to be entered upon. Two old buildings were adapted for temporary occupation, and at some other places calico dormitories were added. The report states that the present Lunacy Act requires amending, and particularly to provide for the admission of voluntary patients to hospitals for the insane and licensed houses. The ward for uncertified cases at Darlinghurst has been more largely made use of. The staff here is an honorary and visiting one. The reception houses at Darlinghurst and Newcastle have done good work, and slight and curable cases avoid the penalty of certification in removal to asylum. The amount expended in maintenance during 1910 was £181,482, an increase of £14,000. The average cost per patient was £31 15*s.* 9½*d.* A sum of £31,000 was collected by the Master in Lunacy towards maintenance, thus lessening the actual cost to the State.

Prevention of Venereal Disease.

After much negotiation it has been announced that the Victorian Government has arranged with the authorities of the Alfred and Women's Hospitals to set apart a ward for the treatment of venereal diseases. No charge of any sort will be made, and patients will be encouraged in every way to submit themselves to treatment for a requisite period. This step has been taken on the advice of a committee of medical men appointed some time ago to assist the Government in outlining measures for the prophylaxis of venereal disease.

Education Congress.

A congress is to be held in Melbourne in March for the purpose of endeavouring to organise educational work in Victoria, so that a continuous course may be open from the primary schools to the university. Various public bodies have been asked, and have consented, to coöperate, and the Victoria branch of the British Medical Association has nominated Dr. J. F. Wilkinson (President) and Dr. A. V. Anderson and Dr. R. H. Fetherston as representatives. One of the principal speakers will be Professor R. J. A. Berry, of the Melbourne University, and Dr. J. W. Barrett, C.M.G., is the chief organising spirit. The congress will continue over four days, and a social programme will be carried out.

Suicide by Lysol.

The city coroner for Melbourne recently remarked that he had investigated the deaths of 30 persons during the last 12 months who had committed suicide by taking lysol. The fashion in suicide appears to change, for a few years ago "Rough on Rats" was the favourite destroying agent, and more recently infusions of wax-match heads had a vogue.

New Year Honour.

Among the knighthoods conferred at the New Year was that given to Dr. C. K. Mackellar, of Sydney. Sir Charles Mackellar is one of the best-known public men in Sydney, and has always taken a prominent part in movements for promoting the public health. Some years ago he was President of the Board of Public Health, and has more recently interested himself in the care of neglected children. Apart from professional interests, he has been a Member of the Legislative Council for many years, and is concerned in many large financial enterprises, being chairman of directors of the Bank of New South Wales. He has left for a trip to England, accompanied by his daughter, who recently published a volume of verse entitled "The Closed Door."

Infantile Diarrhœa.

An unfortunate situation recently arose at the Children's Hospital, Perth, owing to a lack of water-supply and the impossibility of obtaining fresh milk. A number of patients were suffering from diarrhœa, and according to the statement of the resident medical officer, "children were dying like flies." Aroused by the seriousness of affairs, the Government sent up six milch cows from the State farm, and the situation was temporarily overcome. The Government is considering the establishment of a herd of 200 cows and a milk-supply modelled on that of the Lady Talbot Institute of Melbourne.

Sickness and Accident.

The Registrar of Friendly Societies in New South Wales has stated that "experience has shown that the mining members of the friendly societies carry a 38 per cent. higher risk than other members, yet all pay the same contribution." In connexion with this statement a deputation recently waited upon the Registrar and asked for advice upon the matter. Mr. Trivett pointed out that the question was really one of accident assurance. The situation would be met either by the enforcement of higher contributions from miners or by a reduction of sick benefits or by treating accident as a separate benefit.

Miner's Phthisis.

The report of a Royal Commission appointed by the West Australian Government has been presented to Parliament. Its chief recommendations include the certification of all miners before employment as being sound within three months of first engagement. Within three months of the passing of an Act every existing miner must submit to medical examination. If found free from tubercle he is to have a certificate to that effect. If found infected, no employer under a penalty may continue to employ him. Periodical examinations of all men shall be made at six-monthly intervals and those found tuberculous shall be so notified (1) to themselves, (2) to their mine managers, and (3) to the Board of Health.

Memorial Window.

A handsome window in stained glass has been placed in St. Thomas's Church, Moonee Ponds (a suburb of Melbourne), to the memory of the late Dr. J. W. Y. Fishbourne, who died about three months ago. The memorial is the work of the parishioners of the church and the people of the district in which the late Dr. Fishbourne resided for many years.

Export of Pork.

The Victorian Government has extended the provisions of the Milk and Dairies Supervision Act to the whole State. This has been done in order to encourage an export trade in pork, and to ensure the absence of tuberculosis from all pigs, which was found to be common in districts not previously under the Act.

Jan. 20th.

Obituary.

ALFRED HARRY YOUNG, M.B., C.M. EDIN., F.R.C.S. ENG., LL.D. ST. AND.,

EMERITUS PROFESSOR OF ANATOMY IN THE VICTORIA UNIVERSITY OF MANCHESTER, ETC.

WE regret to announce the death, at the age of 60, of Professor A. H. Young, formerly professor of anatomy in the Owens College and the Victoria University of Manchester, which occurred at his home in Didsbury on Feb. 22nd.

Professor Young was born in Warrington, and his intention, after receiving a good education, was to study dentistry. With this object he began his studies at University College, Liverpool, but under the advice of the late William Mitchell Banks, then professor of anatomy at Liverpool, he decided to go to the University of Edinburgh and qualify for a medical career. He took the degrees of M.B. and C.M. in 1876, and, his leaning at this time being towards surgery, proceeded to the English F.R.C.S. diploma in 1880. After a short period spent as a junior demonstrator of anatomy under Sir William Turner in Edinburgh, Young went to Manchester, where he became demonstrator of anatomy in 1877–78, under Professor Morrison Watson. He

also acted as a demonstrator in physiology under Professor Arthur Gamgee. He held in succession the posts of pathological registrar and medical and surgical registrar at the Royal Infirmary. Shortly before this time a hospital for consumption was founded in Manchester, and Young, in 1882, was elected an honorary surgeon to this institution. In 1883 he became surgeon to the Salford Royal Hospital, a post which he held for many years along with the professorship of anatomy. At that time pathology was being taught with great efficiency by the late Professor Dreschfeld, but as Dreschfeld was a busy practitioner, he could not give more than a certain amount of time to the duties of the chair. The important section of pathology known as "surgical pathology" was entrusted to Young, who did the work remarkably well. But the tragic death of Professor Morrison Watson left the chair of Anatomy vacant in 1885, and to it Young was elected. He also acted as dean of the medical school for a long period of years, and exerted a considerable influence both directly and indirectly on its fortunes. He was always solicitous for the progress of the medical school and for the comfort of its students, who were keenly attached to him. He was an active, precise, and painstaking teacher. His powers as a draughtsman, so invaluable to the anatomical demonstrator, he utilised with the greatest skill. He was also an innovator as a lecturer, for he taught certain subjects from the embryological point of view long before this method was extensively adopted in this country.

Young had a vigorous and strenuous personality, kind and sympathetic, but never disguising his well-matured opinions, which he always expressed with perfect candour and fairness. He was a steadfast and devoted friend and unwearied in carrying out any policy which he felt constrained to adopt. During his professorship the anatomical department was well served by the assistants whom he selected, Professor Robinson of Edinburgh, Professor Peter Thompson of Birmingham, and Professor Paterson of Liverpool, among others holding demonstratorships under him. Three volumes of "Studies Issued from the Anatomical Department" (Vol. I. in 1891, Vol. II. in 1900, and Vol. III. in 1906) contained Young's work on the morphology and abnormalities of blood-vessels and the placenta. He wrote, also, the chapters on general embryology and the vascular system in Cunningham's "Text-book of Anatomy."

Professor Young was a recognised authority on education, was selected as an examiner in his subjects by many universities, and when representing the University of Manchester on the General Medical Council took an active part on the Education Committee.

The funeral took place at the Manchester Crematorium on Feb. 26th, and was attended by many former colleagues on the Senate and Council of the University as well as many friends and former pupils. Professor Young leaves a widow and one daughter.

MAXWELL OGILVY-RAMSAY, M.D. EDIN., F.R.C.S. EDIN.,

HONORARY SURGEON TO THE CUMBERLAND INFIRMARY.

THE death of Dr. Maxwell Ogilvy-Ramsay took place on Feb. 15th at his residence, Portland-square, Carlisle, after only a few days' illness. He caught a chill while performing his professional duties, and pneumonia developing he passed away, to the deep grief of a wide circle of friends and patients.

Dr. Ogilvy-Ramsay was born in 1864 at Kirriemuir and was the third son of the Rev. Dr. Ogilvy-Ramsay, the parish minister of Kirriemuir. He received his medical education at the University of Edinburgh, where he graduated M.B., C.M. in 1890. After acting as house surgeon at the Royal Infirmary, Edinburgh, he subsequently held a similar position at the Hospital for Sick Children in Liverpool, and later went to the Rotunda Hospital in Dublin, where he obtained valuable experience in midwifery, one of the subjects to which he was specially attached. In 1892 he took the Licentiateship of the Royal College of Surgeons of Edinburgh, and in the following year was elected a Fellow of the College. He then started general practice in Carlisle, and his wide professional knowledge and skill as an operator soon won for him an assured position.

Shortly after he had settled at Carlisle attention was directed by the Government to the need for some reform in the obstetric work of the city, and a committee of ladies was formed with the object of organising a scheme for the provision of a trained midwife. A nurse was appointed to the post and Dr. Ogilvy-Ramsay consented to give his assistance in difficult cases, which assistance he continued in an honorary capacity until the passing of the Midwives Act. In 1895 he proceeded to the M.D. degree of the University of Edinburgh, taking for his thesis the subject of the prevention of sepsis in midwifery. In this year he also obtained the M.A. degree, and by an interesting coincidence his father received the degree of D.D. on the same occasion. In 1903 he was appointed honorary assistant surgeon to the Cumberland Infirmary, and in the following year joint surgeon with Dr. H. A. Lediard.

Dr. Ogilvy-Ramsay in his younger days was an athlete of no mean order, and during his professional career took part in most of the popular forms of recreation, including, of course, the "roaring game" of curling, in which he excelled. Somewhat reserved in his manner to strangers, he had a warm heart, and his sympathy and kindness, integrity and unselfishness inspired in his friends an esteem which bound them to him. By patients of all classes he was greatly loved. In 1893 he married Miss Andrews, of Lichfield, who survives her husband with two children, a daughter and a son. The interment took place at Closeburn on Feb. 17th.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. Dittmar Finkler, who had very recently resigned the chair of hygiene in the University of Bonn. In early professional life he had been assistant to Professor Pflüger and *privat-docent* of physiology. He then took to clinical work and was assistant to Professor Rühle, and afterwards had charge of the University Policlinic. The Ministry of Education selected him as General Commissioner to represent the German Universities at the Chicago Exhibition, and after his return he was charged with the establishment of a Hygiene Institute, and appointed to the chair of that subject. He was a man of very varied accomplishments, and published papers on Physiology, Pathology, Clinical Medicine, Food Problems, and Bacteriology. His death occurred during his sixtieth year.—Dr. Reye, who was for many years director of the State Asylum at Friedrichsberg. He was 80 years of age.—Dr. William Alfred Grünhagen, formerly extraordinary professor of physiology and of medical physics in the University of Königsberg. He edited Wagner and Funk's well known text-book on physiology, and published as long ago as 1873 a monograph on electro-motor behaviour of living tissues. He was 69 years of age and had lived in retirement for the last 18 years.—Dr. Sigismund Rahmer, well known in literary circles. His writings include studies of Heine, Strindberg, Lenau, and especially Heinrich von Kleisch. He was 45 years of age and a general practitioner in Berlin.—Dr. Emil Stoffella, Ritter d'alta Rupe, extraordinary professor of medicine in the University of Vienna, aged 76.—Dr. Waldemar Koch, professor of physiological chemistry, a nephew of Professor Robert Koch.—Dr. Etienne Cestan, professor of clinical surgery in the University of Toulouse.—Dr. Ch. Guende, professor of clinical ophthalmology in the Marseilles Medical School.

H.R.H. Prince Arthur of Connaught has consented to become Patron of the Twenty-seventh Congress of the Royal Sanitary Institute be to held at York in July next.

LORD LISTER AND UNIVERSITY COLLEGE, LONDON.—The committee and professorial board of University College have sent a letter to Mr. J. J. Lister, F.R.S., expressing sympathy and regret at the death of Lord Lister. The letter recalls with pride that Lord Lister received his medical education within the walls of the College and of University College Hospital, and records high appreciation of the supreme value of his labours in the field of biological and medical science, as a result of which he was enabled to introduce improvements and methods which have reformed surgical practice and have been of incalculable benefit to humanity by prolonging life and alleviating suffering. The letter is signed by Lord Reay and Dr. T. Gregory Foster.

THE NATIONAL INSURANCE ACT.

BRITISH MEDICAL ASSOCIATION: SPECIAL REPRESENTATIVE MEETING.

THE Special Representative Meeting was intended to conclude on Wednesday night, Feb. 21st, but, as we stated in the report in our last issue, it was necessary to continue the meeting on Thursday, Feb. 22nd. The first part of the morning was spent in debating a motion of want of confidence in the Council, and many members took part in the discussion. The solicitor to the Association, at the request of the Chairman, answered various questions with regard to the position of the Association in the event of a wholesale resignation of the Council following the passing of such a motion. It appeared that under the Articles and By-laws a temporary state of deadlock might arise. After both sides had expressed their views with some energy, a motion that the Committee proceed to the next business was carried by a large majority. A motion advising each division to hold a general meeting as soon as possible after the Representative Meeting was agreed to, and it was also decided that a manifesto stating the objections of the profession to the Act should be prepared for presentation to the press, Members of Parliament, deans of medical schools, university tutors, and headmasters of public schools.

The meeting expressed its high appreciation of the action taken by the Royal Colleges of Physicians and Surgeons in defence of public and medical interests; and recorded its strong condemnation of the expressions used by Mr. Lloyd George with reference to the Colleges. A proposition that the Council be instructed to promote united action with the medical corporations and other representatives of professional interests in order to secure conditions satisfactory to the profession was referred to the Council. The motion that the rest of the report be approved was passed by a substantial majority and the committee stage then ended.

Dr. E. J. MACLEAN, on resuming the chair, proposed a vote of thanks to Mr. T. J. Verrall for his great ability in presiding over the Committee stage. Dr. T. A. HELME, in seconding, paid a high tribute to Mr. Verrall's fairness, and the motion was carried with enthusiasm. The meeting then considered in order the resolutions passed during the Committee stage, and, with certain modifications, these were all agreed to. The meeting closed with a vote of thanks to the Chairman, proposed by Mr. N. BISHOP HARMAN and seconded by Dr. HELME. In answer to a question during the morning, it was announced that the signatories to the Association pledge numbered in July, 1911, 18,000; in November, 1911, 23,000; and in February, 1912, 26,100.

NATIONAL MEDICAL UNION.

We have received the following communication from the National Medical Union:—

Sections of the Union have already been formed or are in the process of formation in the following centres: Ashton-under-Lyne, Hyde, Birkenhead, Colwyn Bay, Eccles, Huddersfield, Liverpool (Southern), Liscard, Oswestry, Ross (Herefordshire), Rochester and Chatham, Rochdale, Wigan, Winchester, Wrexham, and Bolton, and conveners of meetings for the formation of other sections have already been appointed. Very good progress has already been made, and it is hoped that many districts which are still undecided will follow the lead of several of the great centres and complete the establishment of local sections of the National Medical Union. Necessity for the formation of these sections has become more urgent since the recent action of the Representative Meeting of the British Medical Association in proposing a conference with the Insurance Commissioners before the six cardinal points were adequately guaranteed. All communications concerning these sections may be directed to the honorary secretary of the Organisation Subcommittee, Dr. M. Russen Rhodes, Bridge House, Didsbury, Manchester.

Medical News.

UNIVERSITY OF BRISTOL.—At examinations held recently the following candidates were successful:—

FINAL EXAMINATION FOR THE DEGREES OF M.B., CH.B.

Pass.—Edwin Vincent Foss, John Richard Kay-Mouat, and Percy Moxey.

Part I.—George Frederick Fawn and William Peach Taylor.

FINAL EXAMINATION FOR THE DEGREE OF B.D.S.

George Frederick Fawn.

EXAMINATION FOR THE DIPLOMA IN PUBLIC HEALTH.

Thomas John Williams.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. Max Iselin, who has charge of the surgical side of the University policlinic, has been recognised as *privat-docent* of surgery.—*Berlin:* Dr. Krückmann, professor in Königsberg, has been appointed Professor of Ophthalmology in succession to Dr. von Michel; and Dr. Cramer, professor in Göttingen, has been appointed to the Chair of Mental Diseases in succession to Dr. Ziehen retired. Dr. L. Rabinowitsch Kempner has been granted the title of Professor. This lady took the degree of Ph.D. in Berne in 1894 and since then has worked in Berlin under Professor Koch and Professor Orth.—*Berlin (Military Medical Academy):* Dr. Kurt Roscher, senior staff surgeon, has been appointed head of the Sanitary Department in place of Professor Rudolf Salzwedel.—*Breslau:* Dr. C. Prausnitz, director of the Rabies Institute, has been recognised as *privat-docent* of Hygiene.—*Budapest:* Dr. Karl Engel has been recognised as *privat-docent* of Diseases of the Circulation and Digestion.—*Erlangen:* Dr. Ernst Engelhorn has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Freiburg:* Dr. Otto Kahler, of Vienna, has been offered the chair of Laryngology in succession to Dr. Killian.—*Göttingen:* Dr. Max Voit, of the Anatomical Institute, has been promoted to be Extraordinary Professor.—*Heidelberg:* Dr. Karl Wilmanns, assistant physician in the Clinic for Mental Diseases, has been granted the title of Extraordinary Professor. Dr. Czerny has been appointed Honorary President of the International Committee for Cancer Research.—*Jena:* Dr. L. Wrede, *privat-docent* of surgery, has been promoted to be Extraordinary Professor.—*Kiel:* Dr. Walter Birk has been recognised as *privat-docent* of Children's Diseases.—*Leipsic:* Dr. E. Heller has been recognised as *privat-docent* of Surgery.—*Lemberg:* Dr. Kasimir Knietniewski, extraordinary professor of comparative anatomy, has been promoted to be Ordinary Professor.—*Prague (Bohemian University):* Dr. Christian Hynek has been recognised as *privat-docent* of Medicine.—*Würzburg:* Dr. Karl Hess, who has just declined an invitation to the chair of ophthalmology in Berlin to succeed von Michel, has been decorated with the Order of the Bavarian Crown, which carries with it a title of nobility.—*Zürich:* Dr. Wilhelm Schulthess, *privat-docent* of orthopædic surgery, has been promoted to be Extraordinary Professor.

BRITISH MEDICAL BENEVOLENT FUND.—The annual general meeting of subscribers to the British Medical Benevolent Fund was held on Feb. 20th, when the present officers were re-elected and a committee appointed for the ensuing year. Dr. S. West, the treasurer, presented his financial statement for 1911 and announced that subscriptions amounting to £1980 8*s.* 6*d.* and donations amounting to £347 14*s.* 6*d.* had been received for the grant department, whilst help had been given to 216 applicants, the sum so disbursed being £2362 16*s.* 6*d.* The annuity department had received an income of £3048 7*s.* 2*d.* derived from investments in trust securities, and the sum of £2593 15*s.* had been paid to the pensioners, of whom there are 131 on the books. Legacies received during the year had amounted to £2380, including £1000 from the executors of the late Dr. F. W. Pavy, a Vice-President of the Fund, and £1000 left by Mrs. John Lowe in memory of her husband, who was for many years chairman of the committee of the Fund. After the report of the committee had been received the meeting was adjourned until 4.30 P.M. on Wednesday, March 13th, when the Lord Mayor has kindly consented to preside at a gathering at the Mansion House in support of the Fund. The adoption of the report will then be moved by Bishop

Boyd Carpenter, the other speakers being Sir Thomas Barlow, President of the Royal College of Physicians of London, Mr. Rickman J. Godlee, President of the Royal College of Surgeons of England, Sir T. Clifford Allbutt, Regius Professor of Physic at Cambridge, Sir John Tweedy, and Dr. West.

A SOMERSET CENTENARIAN.—Mr. W. Edwards, of West Monkton, died recently at the age of 100 years.

DONATIONS AND BEQUESTS.—Under the will of the late Mrs. Ellen Penn, the Miller Hospital, Greenwich, will receive £3000, and the St. John's Hospital, Lewisham, £2000.

MIDDLESEX HOSPITAL.—After the great success achieved last year by the production of *The Belle of New York* by amateurs in aid of the Middlesex Hospital, the experiment is to be tried again this year. A company of over 70 ladies and gentlemen are rehearsing a new and original musical play, entitled *The Military Girl*, written and composed by Charles and Muriel Scott-Gatty. The performances will be at 8.30 P.M., from April 16th to 20th, at the Savoy Theatre, kindly lent for the occasion by Mrs. D'Oyly Carte. Notices as to where tickets are obtainable will be issued later.

DEVON AND EXETER HOSPITAL.—The annual meeting of the subscribers to this hospital was recently held. The medical report stated that during 1911 the in-patients were 1647, against 1614 in 1910. The out-patients numbered 5116, as compared with 5014 in the previous year. The average daily number of in-patients was 160, and the average stay in hospital 35 days. The financial statement showed that the ordinary income was £9972 and the ordinary expenditure £11,512. Legacies were received during the year amounting to £1341, and £1000 were given by Mrs. G. Walker for the endowment of two cots.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

National Insurance Commission.

THERE has been laid on the table of the House of Commons a copy of a memorandum on the steps taken preliminary to the operation of Part I. of the National Insurance Act.

International Opium Convention.

The text of the International Opium Convention signed at the Hague on Jan. 23rd, 1912, has been communicated to Parliament in an official White Paper.

Dogs' Protection Bill.

Sir FREDERICK BANBURY has presented a Bill in the House of Commons for the purpose of prohibiting experiments on dogs. The measure is "backed" by Mr. GEORGE GREENWOOD and Mr. FIELD, and has been read a first time.

Small-pox and Infantile Mortality Statistics.

A return has been ordered by the House of Commons, on the motion of Mr. RAMSAY MACDONALD, which will provide in the first place statistics showing for each year from 1890 to 1910 the number of deaths from small-pox in England and Wales. These figures will be given in considerable detail. In the second place, the return will set out for each year from 1890 to 1910 inclusive the deaths of infants under one year of age per million births from each of the following causes: syphilis, scrofula, tuberculous peritonitis, and tabes mesenterica; skin diseases, erysipelas, pyæmia, and phlegmon; bronchitis, diarrhœa, atrophy, and debility (including premature birth).

The Increase of the Feeble-minded.

Amongst the notices of motion for Tuesday, Feb. 27th, in the House of Commons was one in the name of Mr. HOUSTON, which related to the increase of the feeble-minded. The terms of the honourable Member's motion were as follows: "That in view of the great and rapid increase of feeble-minded, unhealthy, and useless members of the community, a Commission should be appointed to consider the advisability of adopting such drastic methods as sterilisation to arrest the increase of undesirable subjects in the United Kingdom." As the motion was the fourth on the notice paper no opportunity was found for moving it.

Abolition of Vivisection Bill.

Mr. LANSBURY has introduced in the House of Commons a bill "to provide for the abolition of vivisection." The members who support him in doing so are Mr. KEIR HARDIE, Sir JOHN ROLLESTON, Mr. CHANCELLOR, Mr. WILLIAM THORNE, Mr. JOHN WILSON, Mr. TYSON WILSON, Mr. JOHN TAYLOR, Mr. JAMES THOMAS, Colonel LOCKWOOD, Mr. SNOWDEN, and Mr. ALBERT SMITH.

Asylum Officers (Employment, Pensions, and Superannuation) Bill.

Lord WOLMER has presented a Bill in the House of Commons "to limit the hours of employment of officers and servants in asylums and to amend the Asylum Officers' Superannuation Act, 1909." It has been read a first time. The honourable Members backing the Bill are Mr. CHARLES ROBERTS, Mr. STANIER, Mr. WATSON RUTHERFORD, Mr. HIGHAM, Mr. MCCALLUM, Mr. WARDLE, Mr. COTTON, Mr. CHARLES CRAIG, Mr. WILLIAM REDMOND, Sir DAVID BRYNMOR JONES, and Sir REGINALD POLE-CAREW. The framers of the Bill have had before them the report of the Select Committee of the House of Commons, which considered last year the various matters with which the measure deals.

The Capital of India.

In the debate in the House of Lords last week on changes in Indian policy some comment was made on the sanitary condition of the proposed site of the new capital at Delhi. Lord CURZON OF KEDLESTON pointed out that it had been subject to inundations. The Marquis of LANSDOWNE alluded to the successful efforts which had been made to improve the sanitary condition of Calcutta, to its broad avenues and abundant water-supply. One thing, he said, was established, and that was that the sanitary condition of Delhi was inferior to that of Calcutta. He also referred to an ailment called "the Delhi boil," which he understood was to be found at the new capital of India. An American investigator had been devoting a considerable amount of attention to this mysterious complaint, which lasted about ten months.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 21ST.

Qualified Medical Practitioners in India.

Mr. H. W. FORSTER asked the Under Secretary of State for India how many duly qualified medical practitioners there were in India, how many of these were men, how many were women, and how many of either sex were in the service of the Government of India.—Mr. MONTAGU wrote in reply: As no system of medical registration exists in India it is impossible to give an exact answer to the first part of the question, although approximate figures could probably be obtained from non-official publications. As regards the Government service, lengthy and somewhat complicated consultation of the official lists for the various provinces, and probably even reference to the Government of India, would be necessary to arrive at the statistics asked for. I shall be glad to have the matter investigated for the honourable Member and let him know the result as soon as it is obtained.

National Insurance Act Topics.

Sir RANDOLF BAKER asked the Secretary to the Treasury whether it was proposed that approved societies should pay salaries to their secretaries, sick visitors, or inspectors out of funds raised under the operation of the Insurance Act from their members, whether societies would be allowed to institute a medical test for new members, and, if so, whether the fees for medical examination might be paid out of the administration expenses fund.—Mr. MASTERMAN answered: Approved societies are authorised by the Act under Section 3 to pay such salaries, if any, as may be required to secure visitors and inspectors subject to the limitation of general administration expenses to be fixed by regulations of the Commissioners. The institution of a medical test is optional to the societies, and, if enforced, must be borne either by the individual concerned or out of the amount to be set aside for the administration expense fund of the society.

Answering a series of questions Mr. MASTERMAN said: The Insurance Commissioners recognised from the first their duty to supply authentic information and advice to persons affected by the Insurance Act, especially in view of the most important decisions which over 14 millions of insured persons must necessarily take before next July unless they sink into the class of deposit contributors. In the absence of any permanent staff, who in established Government departments provide information, both by lectures and otherwise, concerning all new Acts of Parliament to persons affected, all four Insurance Commissions engaged persons for temporary assistance for this purpose. The engagements were, of course, entirely non-political. It may interest the honourable gentlemen to know that they included two ex-Unionist candidates for Parliament, and that one of the two English organisers, who also arranged the general course of instruction, is the late secretary of the Unionist Insurance Committee. The English Commissioners, at meetings held at the Foreign Office with representatives of Friendly Societies and trade unions, were strongly urged in the first instance to limit themselves to private conference with members of the various organisations concerned. A large number of very successful conferences have been held, and through such conferences they hope that the necessary information may be conveyed to the bulk of insured persons; but they recognise that in the case of women and the remoter rural districts some further methods will have to be devised. In Scotland, Ireland, and parts of Wales, where the ground is not covered by Friendly Societies, it has been found impossible to convey the required information through such organisations, and lectures and addresses are therefore being given open to all who are interested in the Insurance Act. All the conferences and lectures are non-political and uncontroversial in character. The lecturers are under instructions to make no political allusion, direct or indirect, to be careful not to dogmatise on any doubtful points of law, and to confine themselves to plain exposition of what is now the law of the land. Never at any time has there been any connexion between the Government insurance organisation and the body now called the Liberal Insurance Committee, nor did any of the lecturers of the Commission attend the meeting of the Liberal lecturers addressed by the Chancellor of the Exchequer on Feb. 1st.

Leaflets explanatory of the Act are in preparation and will shortly be issued. The enormous number of letters of inquiry received—quite beyond the possibility of treatment by the present staff of the Commissioners—has demonstrated at once the necessity for this work and also the amazing misunderstanding which prevails concerning the details of the Act by which the interests of many persons affected by the Act would be seriously prejudiced. A Paper is in preparation detailing the work already done by the Commissioners to bring the Act into operation, which will include a full account of this preliminary work of exposition. I propose to add to the Paper a list of the permanent and temporary appointments (other than clerical) at present made by the National Insurance Commissioners and the Joint Committee and to lay it on the table of the House.

THURSDAY, FEB. 22ND.

The Italian Government and Red Crescent Expeditions.

Mr. DILLON asked the Secretary of State for Foreign Affairs whether he could state on what grounds the Italian Government withdrew the permission given by them last autumn to a Red Crescent expedition to proceed by sea from Egypt to Tripoli; whether it was at present possible for supplies or *personnel* connected with Red Crescent societies to go from Egypt to Tripoli; and, if not, whether the British Government would request the Italian Government to withdraw their prohibition.—Sir E. GREY replied: I have been informed that the objections of the Italian Government to the despatch of the Red Crescent Mission by sea were based on a report from General Caneva contending that the landing of such a mission at the time would be regarded by the local population as a reaffirmation of Turkish influence in Tripoli. The Italian Government further argued that, as other missions organised by the Red Crescent had entered Tripoli from Tunis, the Turkish orces were already amply provided in this respect. They also entertained apprehensions that, although the character of the doctors attached to the mission could be established, it would be impossible to apply a similar test to other members of the mission and thus guard against the presence amongst them of disguised officers. There is no prohibition against the dispatch of such missions from Egypt to Tripoli by land.

The Milk Bill.

Mr. EDWARD WOOD asked the President of the Local Government Board on what date it was proposed to introduce the Milk Bill.—Mr. BURNS answered: I am not yet able to fix a date for the introduction of the Bill, but I hope it may not be long deferred.

Improper Literature Bill.

Sir HILDRED CARLILE asked the Home Secretary whether he proposed to introduce this session his Bill dealing with improper literature, and whether time would be allotted to it in the Government programme.—Mr. MCKENNA replied: I propose to introduce this Bill and I hope that time may be found to pass it.

Mr. WEDGWOOD: Does the Government propose to set up a censorship of books as well as of plays?—Mr. MCKENNA: No; it is not proposed to censor anything.

MONDAY, FEB. 26TH.

Milk Preservatives.

Mr. STANIER asked the President of the Local Government Board whether mystin, used as a preservative for milk, was allowed under the regulations of the Board; and whether it contained sodium nitrate, and was therefore a danger to a person consuming it.—Mr. BURNS replied: Draft regulations have been prepared by the Local Government Board prohibiting the addition of any preservative substance to milk intended for sale for human consumption. Notice of these regulations was given in the *London Gazette* of Feb. 22nd, in accordance with the provisions of the Rule Publication Act, 1893. I am advised that "mystin" contains sodium nitrite (not nitrate), and that this is a drug with a powerful physiological action.

Foreign Milk and Tubercle Organism.

Mr. TOUCHE asked the President of the Local Government Board whether he could say approximately what proportion of the fresh milk imported from abroad was examined bacterially in regard to tubercle, and how long it took to examine a sample, and had any tubercle been found in the samples reported on in recent months.—Mr. BURNS answered: During the last five months of last year 50 consignments of fresh milk were imported. Forty-three samples were examined bacteriologically, but in no case was the tubercle organism found to be present. A conclusion that the organism is absent is not arrived at until six weeks after the receipt of the sample.

Milk and Tuberculosis.

Mr. TOUCHE asked the President of the Local Government Board whether he had received and considered a report by Dr. Harris, the medical officer of health of the borough of Islington, submitted to the public health committee of that borough, with reference to the finding of the Royal Commission on Tuberculosis, that a considerable proportion of the tuberculosis of childhood was to be ascribed to infection with bacilli transmitted in the milk of cows; and could he say when legislation on the subject would be introduced with a view to dealing effectively with this evil.—Mr. BURNS said in reply: The report has been received and is being considered in connexion with the general question to which it relates. With regard to the last part of the question I may refer to the answer which I gave on Thursday last to the honourable Member for Ripon (Mr. E. Wood).

The Notification of Tuberculosis.

Mr. FRED HALL (Dulwich) asked the President of the Local Government Board whether it was the intention of the Local Government Board that notification of tuberculosis made under its recent Order should be communicated by the medical officers of health to the Metropolitan Asylums Board in the same way as other infectious diseases.—Mr. BURNS answered: The reply is in the negative.

Medical Attendance and the Insurance Act.

Sir PHILIP MAGNUS asked the Secretary to the Treasury whether the official lecturers appointed to explain the details of the National Insurance Act had been instructed to inform insured persons as to the conditions under which they could obtain, in cases of sickness, medical attendance from duly qualified practitioners; and whether, having regard to the fact that these conditions were not yet settled, he would consider the advisability of postponing the lectures now being provided at the public expense till such time as should enable the Commissioners to state whether and, if so, under what arrangements the members of the medical profession had expressed their willingness to cooperate in giving effect to the Act.—Mr. MASTERMAN said in reply: The official lecturers have been given careful instruction to explain the Act as it stands on the statute book. The Act allows alternatives in respect of medical benefit; either that it shall be given from a panel with free choice of doctors, or that alternative arrangements shall be made by the Insurance Committee or the Commissioners, or that medical benefit shall be suspended and the money equivalent returned to the insured person.

Official Lectures on the Insurance Act.

Sir PHILIP MAGNUS asked the Secretary to the Treasury whether Members of that House, medical practitioners, and medical students, to whom a knowledge of the details of the Insurance Act was of especial value, were or would be admitted to the lectures of the official lecturers.—Mr. MASTERMAN replied: If any body of medical practitioners or other persons affected by the Act apply for the attendance of an official lecturer, the Commissioners will be happy to consider their request.

The Transmission of Sleeping Sickness.

Dr. CHAPPLE asked the Secretary of State for the Colonies whether any additional evidence had been brought to his notice that game in Nyasaland was a reservoir, and Glossina morsitans a carrier, of the trypanosome of sleeping sickness; and whether, in view of the evidence so far available and the consequences of delay, fraught with peril to the natives, the whites, their domestic animals, and their trade, he would propose such a modification of the game laws as would enable those who suffered to drive off the game, and with it the tsetse fly, from the vicinity of villages and transport routes.—Mr. L. HARCOURT replied: I am in consultation with my expert advisers, the managing committee of the Sleeping Sickness Bureau, on the whole question, and I am not in a position to make any statement at present, but I can promise my honourable friend that there will be no avoidable delay. With regard to the latter part of my honourable friend's question, I would point out that under Section 19 of the Nyasaland Game Ordinance, 1911, any land-holder or his servant finding a protected animal doing damage to his holding may kill the same without a licence if such act is necessary for the protection of his holding, and that under Section 30 of the same ordinance, when it is shown that any wild animals are causing damage to any native, the resident of the district may authorise the tribesmen or inhabitants of the village to kill the animals. Any person would, of course, be allowed to drive away game from his holding.

TUESDAY, FEB. 27TH.

The Tuberculosis Committee.

Mr. EDWARD WOOD asked the Chancellor of the Exchequer whether any of the gentlemen appointed to the committee of inquiry into the problem of tuberculosis were professors of the veterinary profession; and if not, whether, in view of the intimate connexion of the problems of human and animal tuberculosis, he could see his way to add such representation to the committee.—Mr. LLOYD GEORGE: The answer to the first part of the question is in the negative. I will bring the honourable Member's suggestion before the Chairman of the Committee. In fact, I have already done so.

WEDNESDAY, FEB. 28TH.

Scottish Medical Insurance Commissioner.

The Marquis of TULLIBARDINE asked the Secretary to the Treasury why the Medical Commissioners appointed under the provisions of Section 52 (1) of the National Insurance Act must have had personal experience of general practice; whether there was the same proviso with regard to the Scottish Medical Commissioner, and, if not, would he say why a different course had been adopted; and whether the Scottish Medical Commissioner had had experience of general practice.—Mr. MASTERMAN said in reply: Sections 57 and 80 of the Act require that all the Commissioners must have among their members a duly qualified Medical Commissioner. In England only is experience of general practice a statutory condition of his appointment; but this condition, though not statutory, is also fulfilled by the Scottish Medical Commissioner.

The Marquis of TULLIBARDINE: Then this gentleman has experience of general practice?—Mr. MASTERMAN: Yes, many years' experience.

BOOKS, ETC., RECEIVED.

AMERICAN CLIMATOLOGICAL ASSOCIATION, Philadelphia. (Secretary, Dr. Guy Hinsdale, Hot Springs, Virginia, U.S.A.)
Transactions of the American Climatological Association. For the Year 1911. Volume XXVII. Price not stated.

CHURCHILL, J. AND A., London.
Guy's Hospital Reports. Edited by F. J. Steward, M.S., and Herbert French, M.D. Vol. LXV., being Vol. L. of the Third Series. Price not stated.

DORNAN, WILLIAM J., Printer, Philadelphia.
Transactions of the American Gynecological Society. Volume 36. For the year 1911. Price not stated.

FISCHER, GUSTAV, Jena.
Die Ursachen des chronischen Magengeschwürs. Von. J. W. Th. Lichtenbelt, Arzt. (Aus der medizinischen Klinik zu Utrecht.) Price M.3.
Handbuch der Pathogenen Mikroorganismen. Herausgegeben von Dr. W. Kolle und Dr. A. von Wassermann. Zweite vermehrte Auflage. Fünfte Lieferung (Bd. I., Bogen 26-35). Price M.5.

Herzmissbildungen. Ein Atlas angeborener Herzfehler in Querschnitten mit besonderer Berücksichtigung des Atrioventrikularsystems. Von J. G. Mönckeberg, a.o. Professor an der Universität Giessen. Price M.30.

HIRSCHWALD, AUGUST, Berlin.

Arznei- und Diätverordnungen für die Gynäkologische Praxis aus der Frauenklinik von Prof. Dr. Paul Strassmann in Berlin. Price M.1.60.

Gelöste und ungelöste Aufgaben der Ohrenheilkunde. Festrede gehalten am Stiftungstage der Kaiser Wilhelms-Akademie für das Militärärztliche Bildungswesen, 2 Dezember, 1911. Von A. Passow. Price Pf.80.

Veröffentlichungen aus dem Gebiete des Militär-Sanitätswesens. Herausgegeben von der Medizinal-Abteilung des Königlich Preussischen Kriegsministeriums. Heft 50. Sonnenbäder. Von Dr. W. Haberling, Oberstabsarzt und Regimentsarzt des 5. Rheinischen Inf.-Regts. Nr. 65. Price M.1.

Beiträge zur Experimentellen Therapie. Herausgegeben von Prof. Dr. E. v. Behring, Wirklicher Geheimer Rath, Director des Instituts für Hygiene und Experimentelle Therapie der Universität Marburg. Heft 12. Meine Blutuntersuchungen. Von E. v. Behring, Marburg. Price M.6.

Ueber das konditionale Denken in der Medizin und seine Bedeutung für die Praxis. Von Dr. v. Hansemann. Price M.5.

Soziale Pathologie. Versuch einer Lehre von den sozialen Beziehungen der menschlichen Krankheiten als Grundlage der sozialen Medizin und der sozialen Hygiene. Von Dr. med. Alfred Grotjahn, Berlin. Price M.18.

HODDER AND STOUGHTON, London. (For the UNIVERSITY OF LONDON PRESS, Limited, London.)

The Westminster Hospital Reports. Edited by E. D. Macnamara and E. Rock Carling. 1909–1910. Volume XVII. Price 6s. net.

INCORPORATED INSTITUTE OF HYGIENE, 34, Devonshire-street, Harley-street, London, W. SMITH, W. H., AND SONS, London.

The Home Handbook. Health and Hygiene. Price 1d.

KABITZSCH, CURT, Würzburg.

Das Klima von Schömberg, O.-A. Neuenbürg bei Wildbad (Württembergischer Schwarzwald) und seine Bedeutung für die Behandlung der chronischen Lungentuberkulose. Unter Mitwirkung von Prof. Dr. Meyer, Stuttgart und weil. L. Pfeiffer, Schömberg. Herausgegeben von Dr. med. G. Schröder, Dirig. Arzt der neuen Heilanstalt für Lungenkranke in Schömberg, A.-O. Neuenbürg. Price M.2.

LAYTON, CHARLES AND EDWIN, 56, Farringdon-street, London, E.C.

The Insurance Register (Life). 1912. (First Edition.) Containing a Record of the Yearly Progress and the Present Financial Position of British Life Assurance Associations. Forty-third Year of Publication. Price 1s.

NETHERLANDS-INDIES ASSOCIATION FOR THE PROMOTION OF THE INTERESTS OF THE CINCHONA PLANTERS, Buitenzorg, Java.

The Value of Quinine in Combating Malarial Fever. By S. S. Abrahamson, Official of the Netherlands-Indies Association, &c. Price 6d.

NORSTEDTOCH SÖNER, Kungl. Boktryckeriet, Stockholm,

Verhandlungen des Ersten Kongresses des Nordischen Dermatologischen Vereins zu Kopenhagen den 17–19 Mai, 1910. Redigiert von C. Rasch, Kopenhagen. Price not stated.

ST. CLEMENT'S PRESS, LIMITED, Portugal-street, Kingsway, London, W.C.

The Key to Perfect Health and the Successful Application of Psycho-Therapeutics. A Practical Guide to both Operator and Patient. By Arthur Hallam, Founder and Hon. Secretary of the Psycho-Therapeutic Society, Editor of the *Health Record*. Price 4s. net; by post 4s. 4d.

SMITH, ELDER, AND CO., 15, Waterloo-place, London.

A Junior Course of Practical Zoology. By the late A. Milnes Marshall, M.D., D.Sc., M.A., F.R.S., and the late C. Herbert Hurst, Ph.D. Seventh edition. Revised by F. W. Gamble, D.Sc., F.R.S., Mason Professor of Zoology and Comparative Anatomy in the University of Birmingham. Price 10s. 6d.

Charles Dickens as Editor. Being Letters written by him to William Henry Wills, his Sub-Editor. Selected and edited by R. C. Lehmann. With Portraits. Price 12s. 6d. net.

SPRINGER, JULIUS, Berlin.

Praktische Anleitung zur Syphilisdiagnose auf biologischem Wege. (Spirochaeten-Nachweis, Wassermannsche Reaktion.) Von Dr. P. Mulzer, I. Assistenzarzt der Universitätsklinik für Haut- und Geschlechtskrankheiten zu Strassburg i.E. Zweite Auflage. Price M.4.80.

Die Lungensaugmaske in Theorie und Praxis. Physikalische Behandlung von Lungenkrankheiten, Blutarmut, Keuchhusten, Asthma, Kreislaufstörungen und Schlaflosigkeit. Zusammenfassende Ergebnisse aus Literatur und Praxis. Von Stabsarzt Dr. E. Kuhn. Price not stated.

Die heteroplastische und homöoplastische Transplantation. Eigene Untersuchungen und vergleichende Studien. Von Dr. Georg Schöne, Privatdozent der Chirurgie und I. Assistent der Königlichen Chirurgischen Klinik zu Marburg. Price, paper, M.8; bound, M.9.

Charakter und Nervosität. Vorlesungen über Wesen des Charakters und der Nervosität und über die Verhütung der Nervosität gehalten im I. Semester des Jahres 1910/11 an der medizinischen Fakultät in Budapest. Von Dr. Jenö Kollarits, privatdozent, Adjunkt der II. Med. Universitäts-Klinik. (Direktor: Hofrat Prof. Dr. E. Jendrássik.) Price, paper, M.7; bound, M.8.40.

Die Arzneimittel-Synthese auf Grundlage der Beziehungen zwischen chemischem Aufbau und Wirkung. Für Aerzte, Chemiker und Pharmazeuten. Von Dr. Sigmund Fränkel, a.o. Professor für medizinische Chemie an der Wiener Universität. Dritte, umgearbeitete Auflage. Price, paper, M.24; bound, M.26.50.

UNIVERSITY CORRESPONDENCE COLLEGE, Burlington House, Cambridge. London Office: 32, Red Lion Square, Holborn, W.C.

The University Tutorial Series. Matriculation Directory. No. 60. January, 1912. With Articles on Text-books. Price 1s. net.

UNIVERSITY PRESS, Cambridge. CAMBRIDGE UNIVERSITY PRESS, Fetter-lane, London, E.C. (C. F. CLAY, Manager).

Prehistoric Man. By W. H. L. Duckworth, M.A., M.D., Sc.D., University Lecturer in Physical Anthropology, Cambridge. Price 1s. net.

UNIVERSITY PRESS, 57, Ashton-street, Liverpool.

Tables of Statistical Error. By Professor Sir Ronald Ross, K.C.B., F.R.S., and Walter Stott, Honorary Statistician, Liverpool School of Tropical Medicine. Reprinted from the Annals of Tropical Medicine and Parasitology, Vol. V., No. 3, December, 1911. Issued by the Liverpool School of Tropical Medicine. Price 2s. 6d.

WATTS AND CO., 17, Johnson's-court, Fleet-street, London, E.C.

Practical Anthropology. With two large Charts: (1) A Diagram of Facial Contours; (2) the Normal Cranial Shapes. By Thomas E. Smurthwaite, F.R.A.I., L.M.S.S.A., Assistant School Medical Officer, Willesden. Price 2s. 6d. net.

WOMEN'S INDUSTRIAL COUNCIL, 7, John-street, Adelphi, London, W.C.

How to Cook a Simple Meal. How to Clean a House. How to Do the Weekly Wash. How to Do the Weekly Mending. How to Do your own Upholstery and Machining. By Marguerite Fedden, 1st Class Diplomée N.T.S.C., Principal of St. Martha's College of Housecraft. Price 1d. each, or 1½d. each post free.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.

The Prescribing of Spectacles. By Archibald Stanley Percival, M.A., M.B., B.C. Cantab., Senior Surgeon, Northumberland and Durham Eye Infirmary. Illustrated with diagrams. Second edition, revised. Price 5s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ANDREW, HENRY, L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Consulting Surgeon to the Exeter Dispensary.

ARNOLD, M. B., M.D. Vict., D.P.H., has been appointed Medical Officer of Health of Croydon.

ASHKENNY, A., M.B., Ch.B. Edin., B.Sc. (Public Health), has been appointed School Medical Officer to the City of Birmingham Education Department.

BEAN, KENNETH, M.B., Ch.B. Vict., has been appointed House Physician at the Manchester Royal Infirmary.

BLACK, J., M.B., B.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Milnthorpe District of the county of Westmorland.

CLAPP, GEORGE TUCKER, M.B. Cantab., M.R.C.S., has been appointed Surgeon to the Royal West of England Institution for Deaf and Dumb Children, Exeter.

DIX, C., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Bruton District of the county of Somerset.

GREY, E., M.B., Ch.B. Vict., has been appointed Senior House Surgeon at the Manchester Royal Infirmary.

LEA, C. E., M.D. Vict., has been reappointed Assistant Director of the Clinical Laboratory at the Manchester Royal Infirmary.

MORITZ, E., M.B., Ch.B. Vict., has been appointed Senior House Surgeon at the Manchester Royal Infirmary.

MOSS, HELEN IRENE, M.B., B.S. Lond., has been appointed Assistant Medical Officer at the Eastville Workhouse by the Bristol Board of Guardians.

NICHOLL, ERNEST EDWARD, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health by the South Molton (Devon) Urban District Council.

PICKARD, RANSOM, M.D., B.S. Lond., F.R.C.S., L.R.C.P., D.P.H. Camb., has been appointed Ophthalmic Surgeon to the Royal West of England Institution for Deaf and Dumb Children, Exeter.

SAWDON, G. E., M.B., Ch.B. Vict., has been appointed Junior House Surgeon at the Manchester Royal Infirmary.

WALKER, JAMES, M.B., Ch.B. Vict., has been appointed House Physician at the Manchester Royal Infirmary.

WEBB, WILLIAM TUDOR, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health by the Kingsbridge (Devon) Urban District Council.

WOODALL, A. E., M.D., Ch.B., M.Sc. Vict., has been appointed Medical Officer at the Central Branch of the Manchester Royal Infirmary.

WRIGHT, E. A., M.B., B.C. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Romford District of the county of Essex.

YOUNG, S. L. O., M.D. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Yarmouth (Isle of Wight) District of the county of Hants.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSLEY, BECKETT HOSPITAL.—Second House Surgeon, unmarried. Salary £100 per annum and all found.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Second and Third House Surgeons. Salaries £80 and £75 per annum respectively, with board, rooms, and laundry.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer and Resident Surgical Officer for six months. Salary £80 per annum each, with board, washing, and attendance.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant. Salary at rate of 52 guineas per annum.

BIRMINGHAM, ROYAL ORTHOPÆDIC AND SPINAL HOSPITAL.—Clinical Assistant. Salary £25 per annum.

BRADFORD ROYAL INFIRMARY.—Two House Surgeons, unmarried. Salary £100 per annum, with board, residence, and washing.

BRADFORD TUBERCULOSIS DISPENSARY.—Medical Officer. Salary £350 per annum.

BRIGHTON AND HOVE HOSPITAL FOR WOMEN.—House Surgeon, unmarried, for six months. Salary £80 per annum, with apartments, board, light, attendance, &c.

BRISTOL EYE HOSPITAL.—House Surgeon. Salary £80 per annum, with board and residence.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Junior Resident Officer. Salary £90 per annum, with rooms and attendance.

BURTON-ON-TRENT INFIRMARY.—House Surgeon. Salary £120 per annum, with rooms, board, coal, and light.

CANCER HOSPITAL (FREE), Fulham-road, S.W.—Assistant Pathologist. Salary £350 per annum. Also House Surgeon for six months. Salary £70 per annum.

CARLISLE, CUMBERLAND INFIRMARY.—Resident Medical Officer. Salary at rate of £80 and £100 per annum respectively, with board, lodging, and washing.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with apartments.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant for three months.

CHELTENHAM GENERAL HOSPITAL.—House Physician, unmarried. Salary £80 per annum, with board, lodging, and washing.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Clinical Assistant.

DAVOS, QUEEN ALEXANDRA SANATORIUM.—Junior Medical Officer. Salary £100 per annum, with board, residence, and washing.

DERBY COUNTY ASYLUM, Mickleover.—Junior Assistant Medical Officer. Salary £120 per annum, with apartments, board, washing, and attendance.

DORCHESTER, DORSET COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

DOVER, ROYAL VICTORIA HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

DUNBARTON, COUNTY OF.—Medical Officer. Salary £450 per annum.

EALING, KING EDWARD MEMORIAL HOSPITAL.—Resident Medical Officer for six months. Salary at rate of £80 per annum, with board, lodging, and laundry.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with rooms, board, and washing.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, apartments, and laundry.

LANCASHIRE EDUCATION COMMITTEE.—School Medical Inspector. Salary £250 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Resident House Surgeon and Resident House Physician. Salary at rate of £60 per annum, with board and lodging.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £100 per annum, with rooms, attendance, board, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board and residence.

MANCHESTER CHILDREN'S HOSPITAL, Gartside-street.—Assistant Medical Officer for six months. Salary £50 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Medical Officer for six months, unmarried. Salary £40.

MANCHESTER SCHOOLS FOR MOTHERS.—Medical Officer. Salary £250 per annum.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Physician.

NAVAL FORCES IN THE UNITED KINGDOM.—Dental Surgeon. Salary £1 per day.

NEWCASTLE-UNDER-LYME, BOROUGH OF.—Medical Officer of Health. Salary £250 per annum.

OXFORD, RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—Casualty Officer, unmarried, for six months. Salary at rate of £80 per annum, with board, &c.

OXFORD UNITED DISTRICTS.—Medical Officer of Health. Salary £400 per annum.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary £75 per annum, with board, residence, and washing.

PORTSMOUTH, ROYAL PORTSMOUTH HOSPITAL.—House Physician for six months. Salary £75 per annum, with board, &c.

PRESCOT UNION WORKHOUSE AND INFIRMARY, Whiston, Prescot, near Liverpool.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, board, washing, attendance, &c.

PRESTON ROYAL INFIRMARY.—Junior House Surgeon, unmarried, for six months. Salary £60 per annum, with board, residence, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Surgeon-in-Charge of Ear, Nose, and Throat Department.

ROBBEN ISLAND LEPER SETTLEMENT, Cape of Good Hope.—Bacteriologist. Salary £400 per annum, with board and lodging.

ROCHDALE UNION.—Resident Workhouse Medical Officer. Salary £300 per annum.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ROYAL EAR HOSPITAL, Soho.—House Surgeon. Salary £40 per annum.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

ROYAL NAVAL MEDICAL SERVICE.—Fifteen Appointments.

ST. BARTHOLOMEW'S HOSPITAL.—Assistant Physician.

ST. THOMAS'S HOSPITAL.—Visiting Anæsthetist.

SALFORD ROYAL HOSPITAL.—House Surgeon. Salary at rate of £75 per annum. Also Junior House Surgeon and Casualty House Surgeon. Salaries at rate of £65 per annum. All for six months, with board and residence.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, rations, &c.

SHREWSBURY, SALOP INFIRMARY (COUNTY HOSPITAL).—House Physician Salary at rate of £70 per annum, with board and apartments.

SLEAFORD, KESTEVEN COUNTY ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with board, &c.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—House Physician. Salary £82 per annum, with board, residence, and laundry.

THROAT HOSPITAL, Golden-square, W.—Resident House Surgeon. Salary £75 per annum, with board, residence, and laundry. Also Surgical Registrar.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Radiographer. Salary £75 per annum.

WALSALL AND DISTRICT HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, and laundry. Also House Physician and Casualty Officer. Salary £90 per annum, with board, residence, and laundry.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary at rate of £100 per annum, with board, lodging, and laundry.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, &c., 73, Welbeck-street, W.—Resident House Physician for six months. Salary at rate of £50 per annum.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Two House Physicians and Three House Surgeons for six months. Board, lodging, and laundry provided.

WEST SUSSEX SOUTHERN UNITED (M.O.H.) DISTRICTS.—Medical Officer of Health. Salary at rate of £350 per annum. Also in connexion with the above, Assistant School Medical Officer for the West Sussex and Chichester Joint Education Committee. Salary at rate of £150 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, rooms, and laundry.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Drum, in the county of Monaghan; at Morley, in the county of York, West Riding; at Cliffe, in the county of Kent; and at Penarth, in the county of Glamorgan.

Births, Marriages, and Deaths.

BIRTHS.

CODD.—On Feb. 22nd, at Holwood Lodge, Bromley, Kent, the wife of Arthur F. G. Codd, M.B., F.R.C.S., of a son.

DE COURCY WHEELER.—On Feb. 20th, at Dublin, the wife of William Ireland de Courcy Wheeler, M.D., F.R.C.S.I., of a daughter.

PRICE.—On Feb. 21st, at Castle Cary, Somerset, the wife of David Price, M.B., of a son.

MARRIAGES.

ALDRIDGE—WHITE.—On Feb. 17th, at St. John's, Ladbroke-grove, Frederick James Aldridge, M.B. Oxon., to Kathleen Marietta White, daughter of Mrs. J. Addyman Gardner.

EATON—GRIMALDI.—On Feb. 20th, at Sidmouth Parish Church, Oliver Eaton, M.R.C.S., to Gertrude Frances, third daughter of Mrs. Grimaldi, of Sidmouth.

LLOYD—PRATT.—On Feb. 14th, 1912, by the Lord Bishop of Woolwich, assisted by the Rev. J. J. Burton, Reginald Broughton Lloyd, Captain, I.M.S., to Elizabeth Ellen, eldest daughter of the Rev. J. W. Pratt, of 86, Regent's Park-road, N.W.

DEATHS.

CRUISE.—On Feb. 26th, at his residence, Merrion-square, Dublin, Sir Francis R. Cruise, M.D., D.L., K.S.G., Honorary Physician to His Majesty King George V. in Ireland, aged 77 years.

DILL.—On Feb. 24th, at Birch Wood, Burgess Hill, Sussex, Richard Dill, M.D., in his 90th year.

LAMB.—On Feb. 27th, at Glenera, Pudsey, James Henry Lamb, M.B., C.M. Edin., second son of the late James Henry Lamb, The Latch, Brechin.

MCGAVIN.—On Feb. 22nd, on board H.M.S. *Conway*, Cadet John Beauchamp McGavin, aged 13 years, only son of Mr. and Mrs. Lawrie McGavin, of 32, Weymouth-street, W.

MUNYARD.—On Feb. 22nd, at Villa Solaro, San Remo, Italy, Thomas Guillaume Munyard, L.R.C.P., L.R.C.S., aged 57 years.

OLIVER.—On Feb. 22nd, at 7, Ellison-place, Newcastle-on-Tyne, Emma Octavia, aged 58, wife of Sir Thomas Oliver, M.D.

YOUNG.—On Feb. 22nd, at Raynham-avenue, Didsbury, Lancashire, Alfred Harry Young, LL.D., F.R.C.S., aged 60, Emeritus Professor of Anatomy, Manchester University.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A PORT AUTHORITY AND FOOD REGULATIONS.

THERE is no need to enlarge on the importance of every precaution being taken to protect our food-supply. We are exposed on every side to quite enough risks without having to fear as to the foreign goods which come into our ports. The tinned-meat scandals of five years ago are not forgotten, nor how, after revelations which profoundly affected the public mind not only in America but in England, Mr. Burns, with a full conception of his duty as the head of the Local Government Board, set to work to see what could be done to prevent their repetition. The outcome, it will be remembered, was the passing by both Houses of Parliament of the Public Health (Regulations as to Food) Act, 1907. There were two sets of regulations, one as regards foreign meat and the other as regards unsound food, and it is interesting to note that the Local Government Board has been taking steps to see that these regulations are being carried out. An inspector visited Newhaven in July last and found that the administration of the regulations in the port was not only unsatisfactory, but, as a matter of fact, that the report agreed upon following a conference which the inspector had with the officers of the port sanitary authority four months previously, in which was indicated the minimum amount of inspection necessary for carrying out the regulations in the district, had been seriously curtailed, with the result that a large and relatively important section of foreign foodstuffs was not being dealt with by the authority, while the inspection of coastwise traffic had been entirely suspended. The reason for this, the inspector ascertained, was in consequence of certain definite instructions of a confidential nature issued by the port sanitary authority to its officers. These were to the effect that as the medical officer was not given an increase of salary the authority informed him that he need not make any visits of inspection unless required by the inspector or customs official; and it appears from the discussion at the port sanitary authority meeting when the whole subject was ventilated, that the authority declines to increase the salary of its medical officer because of the extra duties on the ground that as the foodstuffs which come into the port are not for Newhaven but for the nation, the cost of carrying out the regulations should be borne by the Imperial exchequer. Thus because the Newhaven port sanitary authority has refused to discharge its obligations in this important matter by paying its medical officer an adequate remuneration the food-supply of London—for the vast majority of the cargoes arriving at the Sussex port goes to the metropolis—has been jeopardised. Newhaven may be a small place—its population at the last census was 6665, against 6772 in 1901—and composed entirely of the working classes, but that is no argument why the port sanitary authority declines to pay its medical officer more than £30 per annum to carry out what is probably the most important regulations issued from Whitehall within recent years. The inspection of imported foodstuffs at the port of discharge is the governing principle of the regulations, and the Local Government Board will see that the inspection is carried out in such a way as to secure the country against the introduction of unsound food of all descriptions. The port sanitary authority is taking up quite a defiant attitude in the matter, an attitude ridiculous in the extreme. The members must be aware it is absolutely essential that all authorities must carry out the regulations in the same spirit and with the same degree of uniformity, or it will be found that importers will direct their supplies to a port where a less stringent or no inspection at all is enforced. The town of Newhaven must benefit to some extent by the trade of the port, and if the port sanitary authority is so obsessed with the idea of economy that it is unable to breathe the atmosphere of sanitary advance, it had better take steps to have the port closed to all kinds of foodstuffs and foreign meat.

ROLLER SKATES IN THE STREET.

IT will probably have been noticed by many that the small boy who used to be a common object in our streets floundering along with a roller skate attached to one foot has recently been superseded and rendered inconspicuous by boys generally of a larger size, and no doubt of greater affluence, furnished with pairs of skates, and making vigorous if not expert use of them. The lad who contrived to slide along poised uncertainly on his one skate, and, punting himself about on the pavement with the other foot, was a comparatively harmless nuisance. He made a disagreeable amount of noise in a quiet street, and not infrequently he got in the way of pedestrians, but he made few enemies, and hardly deserved such reprobation as fell to his lot. Some people indeed used to pity him because he only had one skate, which suggested poverty, although others who claimed to be better informed explained that the police would interfere with the enjoyment of a pair, whereas they regarded the slow progress possible with one as harmless and negligible. Apparently this was a mistake. The police do not interfere with the use of pairs of skates in the street, and it is stated that the Home Office declines to instruct them to do so. Why this should be it is difficult to see. The public have a right to pass along the highway, and none to turn it into a place of amusement. They have also the right to proceed upon their lawful purposes without being interfered with and hampered by others who use the same thoroughfare improperly. Boys skating at full speed along the footway either regard it as a playground only, or if going from one place to another are doing so in a manner inconvenient to others. They are, in fact, not only a nuisance but a dangerous one. Intent upon their own amusement, they are not likely to make allowance for the slower movements or sudden hesitancies of the ordinary pedestrian, who, moreover, may be elderly and infirm. Roller skates carry no brakes, and collision in the case of the unskilful performer when once imminent is usually inevitable. If it takes place it may or may not be serious, but a fall upon stone pavement is not unlikely to result in a broken limb, and even when no fall takes place a foot armed with a heavy roller skate will inflict a kick more severe than most of us have experienced since our football days. Moreover, if nothing is done to put a stop to this dangerous and selfish amusement at an early stage of its development the number of its devotees will inevitably increase during the coming summer. As rinks become less popular, stocks of skates will come upon the market at a price that will suit the pocket of their only likely purchaser, the schoolboy, with the result that street-skating will become a popular pastime. Without, therefore, wishing to see the healthy amusements of the town-bred boy needlessly diminished, we may be excused for protesting against their being added to by the introduction of a new form of exercise inconvenient or dangerous to other members of the community.

A DISCLAIMER.

To the Editor of THE LANCET.

SIR,—In view of the accounts of the so-called "Miracle Case" which appeared in the papers during the past few days, I should like to make it quite clear that I am not responsible for any publicity that has been given to my name in connexion therewith.

I am, Sir, yours faithfully,

Seymour-street, W., Feb. 27th, 1912. EDWIN ASH.

THE HISTORY OF ST. GEORGE'S HOSPITAL.

IN THE LANCET of June 11th, 1910, and Jan. 21st, 1911, respectively we reviewed the first two parts of the "History of St. George's Hospital," remarking at the end of the second notice "that it certainly should appeal to all past and present students of St. George's Hospital," and that "the medical profession generally might like to learn the history of an institution associated for years with men like John Hunter, Edward Jenner, Matthew Baillie, Benjamin Brodie, and Thomas Young." No further part of this interesting work has yet been issued, and we notice, with regret, from a letter in the current issue of the *St. George's Hospital Gazette* that Mr. George C. Peachey, who undertook to write the book, has failed to receive the financial support which had been promised. Ill-health has added to his burden, but with praiseworthy courage he writes, "The one thing I am sure of is that the work will not be abandoned in my life-time." There should be many members of the medical profession and even of the lay public to subscribe to a work which adds to a neglected side of historical literature, and we feel sure that the labours of Mr. Peachey would be more fully appreciated and encouraged if the difficulties under which he is working were widely known.

PHARMACOLOGICAL RESEARCH.

WE have received from Messrs. Burroughs, Wellcome, and Co., Snow Hill Buildings, London, E.C., a series of reprints of the scientific papers contributed recently by the chemists of the Wellcome Chemical Research Laboratories to the Chemical Society. In the paper by Frederic B. Power, Ph.D., and Charles W. Moore, Ph.D., on the Constituents of Bryony Root, the authors conclude that the activity of bryony root cannot be attributed to a single definite principle, and that it would appear that its purgative property resides chiefly in the resinous and alkaloidal constituents. There is, further, no reason for assuming that the active principle is a glucoside. In a paper on the Constituents of Rhubarb, Mr. Frank Tutin and Mr. Hubert W. B. Clewer summarise the investigation by reporting that the percentages of the various substances actually present in rhubarb are as follows: Essential oil, 0·005; verosterol, 0·1; mixture of fatty acids, 0·31; cinnamic acid (free), 0·01; gallic acid (free), 2·2; rhein, 0·12; rheinolic acid, 0·003; emodin, 0·78; aloe-emodin, 0·16; emodin monomethyl ether, 0·22; chrysophanic acid, 0·49; non-glucosidic resin, 10·4; tannin, 0·52; crystalline mixture of glucosides of the anthraquinone derivatives, 2·0. Of the anthraquinone derivatives rhein, emodin, and emodin monomethyl ether were found to be devoid of purgative action, the first two compounds being quickly excreted in the urine. Aloe-emodin and chrysophanic acid were distinctly, although not very actively, purgative. The glucosides of the anthraquinone derivatives had a bitter, astringent taste, but were quite devoid of purgative action. One of the non-glucosidic resins had a prompt purgative action, 0·1 gramme causing a much more pronounced

effect than the same weight of aloe-emodin or of chrysophanic acid, although it represented a much smaller amount of the drug. In a paper on the Constituents of the Bulb of Buphane Disticha ("poison bulb," a native of South Africa, or the "gift bol," as the Dutch call it) the principal alkaloid found was not brucine, as has been asserted, but an amorphous base called buphanine, which resembles hyoscine in its physiological action. Another alkaloid—narcissine—is also present, but it is not very toxic. In a paper on the Constituents of the Seeds of Casimiroa Edulis, the authors—Frederic B. Power, Ph.D., and Thomas Callan, Ph.D.—conclude that there is no evidence of the presence of a definite glucoside, as has previously been affirmed, and physiological tests have failed to confirm the reputed hypnotic or toxic properties of the seeds. A note upon Casimiroa edulis appeared in THE LANCET of August 21st, 1909, p. 561, in which, on the authority of certain French investigators, it was stated that this Mexican plant had hypnotic and analgesic properties. Lastly, a paper on the Chemical Examination of Calabar Beans, by Arthur H. Salway, Ph.D., D.Sc., shows that the bean, in addition to some essential oil, resin, and other amorphous substances, contains physostigmine; physovenine, a newly recognised alkaloid which, like physostigmine, produces a powerful myotic effect on the pupil of the eye; eseramine, another alkaloid; and oils. No evidence was obtained of the presence in Calabar beans of the alkaloid "isophysostigmine" or of "eseridine," said to have been isolated by previous investigators.

VITAL STATISTICS OF THE EAST AFRICA PROTECTORATE.

THE annual report of the Governor, Sir E. P. C. Girouard, K.C.M.G., on the administration of the East Africa Protectorate has been received at the Colonial Office, and is to be presented to Parliament in due course. The territories comprised in the Protectorate have an area of approximately 200,000 square miles, and include the whole of the coast from Umba to the Juba River, granted on a 50 years' lease by the Sultan of Zanzibar, as also the vast territories in the interior bounded in part by international conventional lines. On the west the Protectorate adjoins that of Uganda. A great portion consists of pasture lands or barren wastes, but there are not lacking extensive districts of great natural fertility on the coast, as well as in the interior.

It is stated in the report that the public health during 1910 was more satisfactory than in the previous five years. The improvement resulted largely from weather conditions, a third year of scanty rainfall in succession having modified the courses of various diseases. The total numbers of patients attended to in the Government hospitals during the past three years were: In 1908, 90,712 (with 940 deaths); in 1909, 90,924 (1094 deaths); and in 1910, 89,044 (1110 deaths).

The decrease in cases was most noticeable in the blackwater and malarial admissions; of the latter there were over 1500 fewer, with 45 per cent. less deaths. The year was fortunate in that there was no particular outbreak of epidemic disease to record. Of the endemic diseases, small-pox and plague showed a considerable subsidence, while there was a continued existence of sleeping sickness, which is restricted to the shores of Lake Nyanza. Two diseases—tuberculosis and enteric fever—are on the increase, and though the number of recorded cases of the former is very small, there is the evidence of various medical missions, which are in closer contact with the native life of the country than is possible at Government dispensaries, that it is spreading. The bulk of the enteric cases occurred among Europeans, and from the list of localities to which the infection has been attributed it has a wide range. Before 1906 it was practically unknown. An increase in the number of cases of amœbic dysentery has also to be recorded. Of other diseases, those affecting the nervous system remained stationary. There was an increased number both of digestive and respiratory illnesses; the latter, however, showed a largely lowered death-rate compared with the previous year. A large number of local injuries were treated, with 50 per cent. less deaths. 3071 surgical operations were performed, with 9 fatalities, 2 more than last year out of 1547 operations.

In 1910 diseases of the nervous, respiratory, circulatory, digestive, and urinary systems, generative organs, and locomotory systems, &c., numbered 38 per cent. of the total admissions, or 35,742, with 296 deaths. 229 of these deaths were caused by respiratory and digestive ailments. General and local injuries amounted to 19,173 cases, with 20 deaths. The details as to insect-borne diseases were: sleeping-sickness, 96 admissions and 22 deaths; plague, 8 and 4; dengue, 1 and *nil*; malaria, 11,205 and 50; blackwater fever, 10 and 5. The figures for the following diseases were: small-pox, 21 admissions and 8 deaths; enteric fever, 30 and 2; beri-beri, 32 and 1; tetanus, 4 and 3; tuberculosis, 49 and 7; syphilis, 1413 and 12; gonorrhœa, 978 and 1; leprosy, 5 and *nil*.

Alienist would be much obliged if any of our readers would kindly inform him what is the maximum daily quantity of thyroid extract it is safe to give to a young plethoric adult suffering from threatened dementia. He is at present taking each day eight of the 5 grain thyroid gland tabloids manufactured by Burroughs, Wellcome, and Co., each of which is supposed to be equivalent to one grain of the desiccated gland. Again, is it safe to continue this treatment indefinitely? An answer to the above queries by those having had experience of the above treatment in mental cases would greatly oblige.

Arthur.—There is no doubt that difficulty attends the sale of practices at the present moment. There is no great likelihood that the value of the appointments will decrease to such an extent, but should a successor obtain them he still runs a risk of not making in other directions the income which the practice has hitherto commanded.

Mr. W. G. Walford.—The friend who is quoted is not trustworthy. No one has commented upon the views here; and so far from the Listerian doctrines being ridiculed in THE LANCET all Lord Lister's early work was published in these columns, where the first account of the new methods and new system appeared.

A. E. H.—Our correspondent would seem to have entirely misunderstood the scope and results of the work of the pathologist to the Scottish Asylums.

J. S.—The address of the honorary secretary of the Association of Public Vaccinators is 1, Mitre-court-buildings, Temple, E.C.

Mr. Algernon Ashton.—In our notice of Lord Lister's career the error was not made.

J. G. (*Lancs.*) has, we consider, assumed too much.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for March and April:—

March 7th-11th (Berlin).—Thirty-third Balneological Congress.
March 23rd-April 4th (London, Royal Agricultural Hall).—International Smoke Abatement Exhibition.
April 1st and 2nd (Milan).—Italian National Convention upon the Sexual Question.
,, (London).—First Congress of Pure Food and Health Society of Great Britain.
,, 1st-7th (Tunis).—Twenty-second Congress of French-speaking Alienists and Neurologists.
,, 8th-13th (Rome).—Seventh International Congress of Dermatology and Syphilology.
,, 8th-15th (Johannesburg).—Thirteenth South African Medical Congress.
,, 9th-11th (Paris).—Congress of Physiotherapy for French-speaking Physicians.
,, 9th (Berlin).—Eleventh Congress of the German Society for Orthopædic Surgery.
,, 9th-13th (Giessen).—Congress on Study of Families, Inheritance, and Race Hygiene.
,, 10th-13th (Berlin).—Forty-first Congress of the German Surgical Society.
,, 14th (Berlin).—Eighth Congress of the German Röntgen Society.
,, 14th-20th (Rome).—Seventh International Congress on Tuberculosis.
,, 15th-18th (Wiesbaden).—Twenty-ninth German Congress for Internal Medicine.
,, 21st-24th (Munich).—Twenty-sixth Meeting of the Anatomical Society.
,, (London, Olympia).—Ideal Homes Exhibition.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 28th, 1912.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Feb. 22	29·98	S.W.	0·02	57	55	41	50	51	Raining
,, 23	29·89	S.W.	0·14	61	56	51	52	53	Overcast
,, 24	29·93	N.E.	0·37	65	50	44	44	45	Overcast
,, 25	29·85	S.W.	0·04	83	54	45	47	49	Cloudy
,, 26	30·01	S.W.	...	79	52	39	41	42	Overcast
,, 27	30·04	W.	0·02	90	58	42	47	51	Cloudy
,, 28	30·16	S.W.	...	86	59	51	50	52	Overcast

The following journals, magazines, &c., have been received:—St. Thomas's Hospital Gazette, St. George's Hospital Gazette, Medical Chronicle, Archives Internationales de Neurologie, Annales de Gynécologie et d'Obstétrique, Archives de Médecine et Pharmacie Navales, Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris, Malaria e Malattie dei Paesi Caldi, Zentralblatt für die gesamte innere Medizin und ihre Grenzebiete, Revista de los Hospitales, Revista Médica del Uruguay, Archivo Brasileiros de Medicina.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).

TUESDAY.

SECTION OF ANÆSTHETICS (Hon. Secretaries—Mrs. Dickinson Berry, H. J. Scharlieb, C.M.G.): at 5.30 P.M.

Joint Meeting with
SURGICAL SECTION and
MEDICAL SECTION.

Adjourned Debate:
On Partial Thyroidectomy under Local Anæsthesia, with Special Reference to Exophthalmic Goitre.

The Debate will be opened by Mr. A. E. Barker. The following will take part in the Debate:—Mr. Charters Symonds, Mr. Donald Armour, Mr. Walter Edmunds, Dr. J. Blumfeld, Mr. C. H. Fagge. Dr. H. J. Scharlieb, C.M.G., Dr. G. A. H. Barton, Mr. Rupert Farrant, Mr. H. J. Paterson, and Mr. James Berry.

PATHOLOGICAL SECTION (Hon. Secretaries—J. C. G. Ledingham, A. E. Boycott), at Pathological Laboratory, Royal Army Medical College, Grosvenor-road, S.W.: at 8.30 P.M.

Colonel W. H. Horrocks: Variability of the Typhoid Bacillus.
Major W. S. Harrison: Joint Culture in Rheumatic Fever.
Lt.-Col. Sir William Leishman: Further Observations on Tick Fever.
Major S. L. Cummins: Observations on a Typhoid Carrier.
Captain J. C. Kennedy: A Case of Actinomycosis.

WEDNESDAY.

BALNEOLOGICAL AND CLIMATOLOGICAL SECTION (Hon. Secretaries—A. Manuel, F. A. de T. Mouillot): at 5.30 P.M.

Paper:
Dr. Armstrong (Buxton): The Spa Treatment of Neuritis.

(After the meeting Members will dine together at Pagani's Restaurant, Great Portland-street, W., at 7 P.M. Price of dinner 3s. 6d. All Fellows and Members are invited to attend and bring guests. In order that proper arrangements may be made Members are requested to reply to the Hon. Secretaries of the Section, 15, Cavendish-square, W.)

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—J. H. Targett, W. W. H. Tate): at 8 P.M.

Specimens:
Dr. Lediard: (1) Extra-peritoneal Suppurating Dermoid; (2) Sacral Teratoma in an Infant Two Days Old—Operation and Recovery; (3) Large Warty Fibroma of Labium.
Dr. Briggs: (1) Large Placenta in Case of Ectopic Gestation Three Months Beyond Term; (2) Fibroid of Uterus of Unusual Character.
Dr. Clifford White: Fœtus with Congenital Hereditary Graves's Disease.

Short Communications:
Dr. Briggs: Cæsarean Section in a Case of Dystocia Due to Loops of Cord Round Fœtus at Term.
Dr. Fothergill: The Classification of Disease.
Dr. Glendining: Fibro-adenoma of the Ovarian Fimbria and the Question of Accessory Ovary.
Dr. Lockyer: Embryotomy after Version for Placenta Prævia.

(N.B.—On Friday, March 15th, at 8.30 P.M., Members are specially invited to attend the meeting of the Electro-Therapeutical Section, when Dr. Bordier (of Lyons) will read a paper on the Radio-therapeutic Treatment of Uterine Fibroma.)

FRIDAY.

GENERAL MEETING OF FELLOWS at 4.45 P.M.

Election of Candidates for Fellowship.

CLINICAL SECTION (Hon. Secretaries: James Galloway, Charles H. Fagge): at 8.30 P.M.

Demonstration of Cases:
Dr. Galloway: Case of Muscular Dystrophy.
And other Cases.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—9 P.M., Dr. A. E. Garrod: Glycosuria. (Lettsomian Lecture III.)

RÖNTGEN SOCIETY, City and Guilds Technical College, Leonard-street, City-road, Finsbury.

TUESDAY.—8.15 P.M., Demonstrations:—Prof. S. P. Thompson: Physiological Action of an Alternating Magnetic Field.—Mr. W. Hampson: Radiometer.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Clinical Cases.

WIMBLEDON AND DISTRICT MEDICAL SOCIETY, Johnston's Rooms, 6, Broadway, Wimbledon.

FRIDAY.—9 P.M., Dr. G. P. Shuter: Anæsthetics

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY, WEDNESDAY, AND FRIDAY.—5 P.M., Prof. A. Keith Important Phases in the Evolution of Man.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. MacCormac: Clinique (Skin). 5.15 P.M. Lecture:—Dr. F. W. Price: Showing Cases to Illustrate Lectures.

TUESDAY.—4 P.M., Dr. T. Thompson: Clinique (Medical). 5.15 P.M. Lecture:—Dr. G. E. Herman: Some Points in the Hygiene of Pregnancy.

WEDNESDAY.—4 P.M., Mr. P. Turner: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. A. F. Tredgold: Some Medical Aspects of Eugenics.

THURSDAY.—4 P.M., Mr. H. Lett: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. Riviere: The Action of Tuberculin and its Application to the Treatment of Different Forms of Tuberculosis.

FRIDAY.—4 P.M., Mr. H. T. Mant: Clinique (Ear, Nose, and Throat). 5.15 P.M., Lecture:—Dr. W. Wingrave: Cerebro-spinal Fluid.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. R. Lloyd: Administration of Anæsthetics.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11 A.M., Mr. Etherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Pardoe: Clinical (Urinary Surgery).

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. E. Harman: Diseases of the Eye. 2.30 P.M.. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. Low: Insects as Carriers of Disease in Tropical Medicine.

THURSDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery. (Lecture VI.)

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Morton: The X Ray Diagnosis of the Digestive System.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. Bishop Harman: Diseases of the Eye. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham): Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

TUESDAY.—Clinic; 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld).; Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). 4.30 P.M., Lecture:—Dr. G. G. Macdonald: The Bacteriology of Catarrh.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen): Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Mr. W. Steuart); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 3.15 P.M., Dr. R. Wells: Medicine. 2.15 P.M., Mr. R. Carling: Surgery. 4.15 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Mr. Carling: Operations on the Heart and Vessels.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4.30 P.M., Special Lecture:—Mr. Cantile: Applied Anatomy.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Sir J. Rose Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—10 A.M., Radiography. 11 A.M., Dr. A. Davies: Pathological Demonstration. 2 P.M., Operations. Out-patient Demonstration:—10 A.M., Surgical and Medical. 11 A.M., Eye.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture:—Dr. Langmead Cyclic Vomiting.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. F. Batten: Muscular Atrophy.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. G. Holmes: Paths of Sensory Conduction.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—6 P.M., Dr. W. K. Sibley: Syphilis.

THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell: Undiagnosed Syphilides.

UNIVERSITY OF LONDON (UNIVERSITY COLLEGE), The Francis Galton Laboratory for National Eugenics.

TUESDAY.—8.30 P.M., Mr. N. B. Harman: Some Signs of Physical Degeneracy and their Lessons. (Lecture VI.)

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Dr. F. C. Moore: Treatment of Pneumonia. (Post-Graduate Clinic.)

MANCHESTER ROYAL INFIRMARY.

FRIDAY.—4.30 P.M., Mr. Rayner: Tuberculous Disease of the Spine and Hip, with Special Reference to Early Diagnosis.

SALFORD ROYAL HOSPITAL.

THURSDAY.—4.30 P.M., Mr. F. P. Buckley: Operative Treatment of Fractures. (Post-Graduate Course).

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (6th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's 2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (7th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)., Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (9th).—Royal Free (9A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.), Hospital operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index and Title-page to Vol. II. of 1911 were given in THE LANCET of Dec. 30th, 1911.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1911 are now ready. Bound in cloth, gilt lettered, price 16*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

(The rate for the United Kingdom will apply also to Medical Subordinates in India whose rates of pay, including allowances, is less than Rs.50 per month.)

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

SOLE AGENTS FOR AMERICA—Messrs. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Messrs. Ayrton, Saunders, and Co., Lond.; Messrs. R. Anderson and Co., Lond.; Aymard Patent Milk Sterilizer Co., Ipswich; Dr. Edwin Ash, Lond.

B.—Bishopstone House, Bedford, Superintendent of; Bristol Royal Hospital, Secretary of; Messrs. M. J. Breitenbach Co., New York; Burton-on-Trent Infirmary, Secretary of; British Aluminium Co., Lond., Secretary of; Messrs. C. Barker and Sons, Lond.; Mr. H. Baker, Birmingham; Mr. E. Bougault, Paris; Dr. A. Brown, Lond.; Professor F. A. Bainbridge, Stocksfield-on-Tyne; Messrs. Bale, Sons, and Danielsson, Lond.; Mr. H. Bazett, Burwell; Mr. W. H. Battle, Lond.; Messrs. P. Beiersdorf and Co., Lond., Manager of; Messrs. P. Blakiston's Son and Co., Philadelphia; British Medical Benevolent Fund, Lond.; Captain J. H. Brunskill, R.A.M.C., Curragh Camp; Dr. G. W. Badgerow, Lond.; Dr. A. T. Brand, Driffield; Sir Lauder Brunton, Bart., Lond.; Mr. G. Sherman Bigg, Lond.; Messrs. Baillière, Tindall, and Cox, Lond.

C.—Dr. R. H. Cole, Lond.; Mr. H. A. Collins, Croydon; Carlisle Non-Provident Dispensary, Hon. Secretary of; Cheltenham General Hospital, Secretary of; Cincinnati Medical Book Co., U.S.A.; Messrs. T. Christy and Co., Lond.; Messrs. Constable and Co., Lond.; College of Preceptors, Lond., Secretary of; Dr. Helen Chambers, Lond.; Colonial Office, Under-Secretary of State, Lond.; Dr. Harold Clifford, Manchester; Dr. Myer Coplans, Leeds.

D.—Messrs. S. Deacon and Co., Lond.; The Dioradin Agency, Lond., Manager of; Derby County Asylum, Mickleover, Secretary of; Mr. A. S. Downing, Albany, N.Y.; Messrs. Duncan, Flockhart, and Co., Lond.; Dorland Agency, Lond.; Messrs. W. Dawson and Sons, Lond.; Dr. Thomas Dutton, Lond.; Doral.

E.—Electrical Engineering Co., Lond.; Miss Edgar, Wokingham; Dr. W. d'Este Emery, Lond.

F.—Messrs. Fletcher, Fletcher, and Co., Lond.; Messrs. Fannin and Co., Dublin; Mr. F. A. M. Flegg, South Woodford; Mr. H. Finnemore, Lond.; Major H. C. French, R.A.M.C., Valetta; Mr. W. H. Furness, Philadelphia, U.S.A.; Dr. W. E. Fielden, St. Helier; Dr. H. P. Fairlie, Glasgow; Dr. W. E. Fothergill, Manchester; Dr. John Fawcett, Lond.

G.—Mr. G. H. Gemmell, Edinburgh; Galen Manufacturng Co., Lond.; Mr. A. S. Gregory, Birmingham; Gloucestershire Royal Infirmary, Gloucester, Secretary of; Dr. A. E. Garrod, Lond.; General Register Office, Dublin; Dr. A. S. Grünbaum, Lond.; Professor Dr. Galli, Bordighera; Mr. J. Good, Blackrod; Glasgow Medico-Chirurgical Society, Secretary of; Dr. Edwin Goodall, Cardiff; Sir Walter Gilbey, Bart., Lond.

H.—Messrs. W. H. and A. G. Herbert, Lond.; Mr. T. H. Hewitt, Lond.; Dr. M. G. Hannay, Lond.; Messrs. C. J. Hewlett and Son, Lond.; Dr. N. Hannah, Ashton-in-Makerfield; Mr. C. W. Hutt, Grappenhall; Hastings, Town Clerk of.

I.—Messrs. Isaacs and Co., Lond.; Income-Tax Recovery (Briant's) Agency, Hastings.

J.—Mr. W. Judd, Lond.; *The Journal of Nervous and Mental Disease*, New York.

K.—Messrs. H. S. King and Co., Lond.; Dr. Knight, Edinburgh; Kensington Dispensary, Lond., Secretary of; Mr. J. Knopf, Lond.; Dr. O. Kraus, Paris; King Edward's Memorial Hospital, Lond., Hon. Secretary of; Messrs. H. Kendall and Sons, Lond.; Mrs. Kirby, Lowestoft; Mr. Dudley Kennard, Lond.; Dr. Robert Knox, Lond.

L.—London Press Exchange, Lond.; Mr. H. K. Lewis, Lond.; Loughton Urban District Council, Clerk of; Mr. F. W. Lowndes, Liverpool; Mr. J. Bernard Lamb, Lond.; Dr. G. H. Lancashire, Withington; Dr. Thomas D. Lister, Lond.; Liverpool, Medical Officer of Health of; Dr. T. Glover Lyon, Ashtead; Leeds and West Riding Medico-Chirurgical Society, Secretary of; Dr. W. Lauzun-Brown, Lond.; Mr. R. Clement Lucas, Lond.

M.—Macclesfield General Infirmary, Secretary of; Dr. J. A. Müller, Negri Sembilan; Mr. R. Mosse, Berlin; Messrs. J. Maclehose and Sons, Glasgow; Mr. G. Mowat, Saxmundham; Mr. G. B. Messenger, Sheffield; Medical Correspondence College, Lond.; Maltine Manufacturing Co., Lond.; Captain R. McCarrison, I.M.S., Lond.; Dr. S. G. Moore, Huddersfield; Mr. G. N. Morton, Glasgow; Middlesex Hospital Medical School, Lond., Dean of; Dr. Paul Mayer, Lond.; Medical Sickness and Accident Society, Lond., Secretary of; Mr. J. Penn Milton, Yelverton; Mr. R. H. G. Marquis, Lond.; Midland and Western Counties Obstetrical and Gynæcological Society, Birmingham, Hon. Secretary of; Mr. F. Milton, Ramsgate.

N.—Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.; Newcastle-under-Lyme Corporation, Clerk to the; Nithsdale Dairy, Edinburgh; Nottingham General Dispensary, Secretary of; National Medical Union, Manchester, Secretary of.

O.—Dr. Bernard O'Connor, Lond.

P.—Dr. A. C. Parr, Feltham; Dr. R. W. C. Pierce, Guildford; Mr. D'Arcy Power, Lond.

Q.—Queen Charlotte's Lying-in Hospital, Lond., Secretary of.

R.—Royal Victoria Hospital, Dover, Secretary of; Royal Portsmouth Hospital, Secretary of; Messrs. Rebman, Lond.; Radcliffe Infirmary, Oxford, Secretary of; Royal Orthopædic Hospital, Birmingham, Secretary of; Rotherham Hospital, Secretary of; Royal Ear Hospital, Lond., Secretary of; Royal Institution of Great Britain, Lond.; Radnorshire Education Committee, Llandrindod Wells, School Medical Officer of; Dr. Guthrie Rankin, Lond.; Dr. T. H. Ravenhill, Birmingham; Dr. J. Ritchie, Aberdeen; Dr. M. D. Roberts, Lond.; Royal Dental Hospital, Lond., Secretary of; Royal Academy of Medicine in Ireland, Dublin; Dr. C. Rundle, Liverpool.

S.—Scholastic, Clerical, and Medical Association, Lond.; Messrs. W. H. Smith and Son, Manchester; Dr. Wood Smith, Ilfracombe; Sheffield University, Registrar of; Messrs. G. Street and Co., Lond.; "Scout" Motors, Salisbury, Manager of; S. G. M.; Messrs. R. G. Shaw and Co., Lond.; Mr. B. R. Sawhney, Lahore; Mr. P. Schneider, Barcelona; Messrs. W. H. Smith and Son, Lond.; Society for the Suppression of the Opium Trade, Lond., Secretary of; Dr. Brown Sim, Nottingham; Seventeenth International Congress of Medicine, Lond., Hon. General Secretary of; Dr. C. A. Stidston, Penzance; Dr. J. S. B. Stopford, Rochdale; Stockport Infirmary, Committee of.

T.—Captain Thomas, Lond.; Throat Hospital, Lond.; *Times* Book Club, Lond.; Messrs. Thacker and Co., Lond.; Dr. J. Thomarson, Yarmouth; Mr. J. H. Targett, Lond.; Messrs. C. Tinling and Co., Liverpool; Tubex Engineering Works, Lond.

U.—University of London, Principal of; University College, Lond., Secretary of.

V.—Messrs. Van Houten, Lond.

W.—Walsall and District Hospital, Secretary of; Messrs. J. Williams and Son, Bradford; Messrs. Weatherall and Green, Lond.; Dr. A. A. Warden, Paris; West Herts Hospital, Hemel Hempstead, Clerk to the; Mr. A. P. Walters, Exeter; Dr. L. Waldstein, Tunbridge Wells; Messrs. A. J. Wilson and Co., Lond.; Dr. J. F. Windsor, Exmouth; Dr. E. Watt, Partick; Woodstock Rural District Council, Clerk to the; Mr. Campbell Williams, Lond.; Mr. W. J. D. Walker, Drogheda; Wandsworth, Town Clerk of; Who's Who in Japan Publishing Office, Tokyo; Dr. Beckwith Whitehouse, Birmingham; Dr. W. McC. Wanklyn, Lond.; Dr. Norman H. Walker, Lond.; San.-Rat. Dr. Jacob Wolff, Berlin; Messrs. Williams and Norgate, Lond.

Y.—Yost Typewriter Co., Lond.; Mr. Macleod Yearsley, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Apollinaris Co., Lond.; Mr. E. Ashby, York; A. E. H.

B.—Dr. W. Broadbent, Brighton; Bath Royal United Hospital, Secretary of; Barnsley Hall, Bromsgrove, Clerk to the; Messrs. F. W. Berwick and Co., Lond.; Dr. A. E. Brindley, Derby; Mr. J. Burdon-Cooper, Bath; Dr. D. Buxton, Lond.

C.—Dr. F. Charlesworth, Zanzibar; Dr. A. M. Caverhill, Blantyre; Central London Throat and Ear Hospital, Secretary of.

D.—Dr. H. Des Vœux, Lond.; Mr. K. H. Digby, Bowdon; Dr. S. Delépine, Manchester; Dr. W. T. Dougal, Pittenweem; David Lewis Manchester Epileptic Colony, Secretary of; Mr. E. F. Drake-Brockman, Lond.; Messrs. F. Davidson and Co., Lond.

E.—Mr. F. G. Ernst, Lond.; Mr. C. H. Evans, Lond.; Encyclopædia Britannica Co., Lond., Manager of.

F.—Dr. P. J. Freyer, Lond.; Messrs. Fairchild Bros. and Co., Lond.; Fisherton House, Salisbury; Messrs. Fry and Sons, Bristol.

G.—Mr. G. Gosselin, Pontorson; Sir J. F. Goodhart, Bart., Lond.; Dr. R. A. Gibbons, Lond.; Dr. S. Gill, Formby; Mr. W. Green, Lond.; Mr. J. H. Gardiner, Lond.

H.—Mr. C. H. Harding, Whittlesea; Lieutenant-Colonel M. P. Holt, R.A.M.C., Kasauli; Haslemere Nursing Home, Secretary of; Dr. A. D. Hamilton, Deganwy; Messrs. Hawksley and Son, Lond.

J.—Mr. T. J. Judson, Farnham; Jessop Hospital for Women, Sheffield, Secretary of; J. H. N.

K.—Dr. R. L. Meade King, Taunton; Kent and Canterbury Hospital, Secretary of; Kesteven County Asylum, Sleaford, Clerk to the; Dr. C. Kaufmann, Zurich; Messrs. S. Kutnow and Co., Lond.; Messrs. Krohne and Seseman, Lond.

L.—Dr. D. Lawson, Banchory; Mr. T. S. Logan, Exminster; Dr. Lazarraga, Malaga; Captain R. B. Lloyd, I.M.S., Lond.; Dr. R. J. Ledlie, Bradford; Dr. C. H. Lilley, Exeter; Leeds University, Accountant to the.

M.—Mr. M. Morgan, Brighton; Mr. B. G. A. Moynihan, Leeds; "Medicus," Bristol; Mildmay Mission Hospital, Lond., Matron of; Mr. A. M. McCormick, Lond., Messrs. Menzies and Co., Glasgow; Manchester Royal Eye Hospital, Secretary of; M. D. F.

N.—Newcastle-on-Tyne Children's Hospital, Secretary of.

O.—Mr. W. J. Oliver, Newcastle-on-Tyne.

P.—Dr. E. J. Panzner, Detroit, Mich.; Panswick Sanatorium, Secretary of; Pudokollah, India, Chief Medical Officer of; Portsmouth Lunatic Asylum, Clerk to the; Mr. A. Picard, Paris; P. D.; Mr. R. Parker, Liverpool; Mr. S. Phillips, Lond.

Q.—Dr. W. T. Quaife, Soloman Islands.

R.—Royal Devon and Exeter Hospital, Secretary of; The Retreat, York, Secretary of; Dr. S. W. Robinson, Monte Caseros; Royal Southern Hospital, Liverpool, Secretary of; Dr. R. M. Rowe, Lond.; Royal Hampshire County Hospital, Winchester; Mr. N. O. Roberts, Birmingham; Royal Society of Medicine, Lond., Secretary of.

S.—Sir D. Semple, Lond.; Salford Royal Hospital, Secretary of; Stirling County Council, Clerk to the; S. W. C.; "Syme," Egremont; Surrey Education Committee, Kingston, Clerk to the; Dr. A. C. Sandstein, Christchurch, New Zealand; Mr. P. C. Shepheard, Aylsham; Sir G. H. Savage, Lond.; Mr. J. E. Syme, Egremont; Messrs. Spiers and Pond, Lond.; St. Mary's Hospital for Women and Children, Lond., Secretary of.

T.—Mr. A. H. Tubby, Lond.

V.—Mr. D. Vinrace, Lond.

W.—Dr. Whitelaw, Portobello; Dr. G. R. Ward, Lond.; Messrs. F. Williams and Co., Lond.; West Kent General Hospital, Maidstone, Secretary of; Wolverhampton and Staffordshire General Hospital, Secretary of; W. C. W.

EVERY FRIDAY. THE LANCET. PRICE SIXPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.*		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

* *The same rate applies to Medical Subordinates in India.*

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Five Lines and under £0 4 6
Official and General Announcements	
Trade and Miscellaneous Advertisements and Situations Vacant ...	Every additional Line 0 0 6

Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.
Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.
Special terms for Position Pages.

JUST READY—VOLUME III., COMPLETING A GREAT WORK

Musser and Kelly's Treatment

The third and final volume of this great work is just ready, completing what is beyond question the greatest work on Practical Treatment ever published. Its contributors represent the best therapeutists of Great Britain and America.

It is up-to-date, including the most recent advances in serum-therapy, bacterio-therapy, vaccine therapy, the therapeutic application of Ehrlich's "606," &c.

A chapter of importance is that on Slight Ailments, conditions every practitioner is daily called upon to relieve.

Eminent surgeons present procedures partaking of a surgical nature, which must oftentimes be performed by the general practitioner.

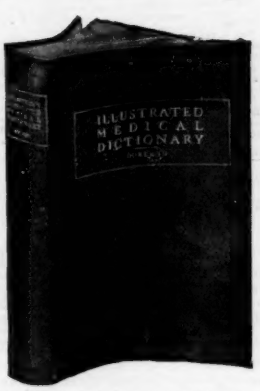
Every practitioner should possess this great "Treatment." In it he will have at his command a practical work—a work he will find of constant value every day.

Three octavos, averaging 950 pages each, illustrated. By 82 Eminent Specialists. Edited by JOHN H. MUSSER, M.D., Professor of Clinical Medicine, and A. O. J. KELLY, M.D., late Assistant Professor of Medicine, University of Pennsylvania. Price per volume: Cloth, 25s. net; Half Morocco, 31s. 6d. net. *Send for a Circular.*

Dorland's ILLUSTRATED MEDICAL Dictionary

NEW (6th) EDITION—WITH OVER 7000 NEW WORDS

NOT JUST A "REVISION," BUT VIRTUALLY A NEW WORK



NOTE EXTREME FLEXIBILITY, GREATLY FACILITATING CONSULTATION. SIZE 6 × 9¼ × 1¼ INCHES.

This revision means much more than is implied by "new edition." It means a *new work* in every sense. Every word has been carefully scrutinized with a view to accuracy in pronunciation, etymology, and definition, and the entire book reset from A to Z.

To keep the volume within bounds and preserve its value as a desk reference work, provision was made for the vast number of important new words added—*well over 7000*—by selecting a type which, while even more legible than the old, permitted of 12 lines more to the page. This new revision attains a superiority impossible in any first edition, because it is at once a product of to-day and the result of eleven years' growth and development. Its information is of the current year; its character, the inheritance of six successful editions.

Octavo of 986 pages, with 323 Illustrations, 119 in colours. Edited by W. A. NEWMAN DORLAND, M.D. Flexible leather, 19s. net; with Thumb Index, 21s. net. Pocket Edition, 5s. net; with Thumb Index, 6s. net.

Send for a Circular.

Books Sent, Carriage Paid, on Receipt of Price.

W. B. SAUNDERS COMPANY, 9, Henrietta Street, Strand, London, W.C.

Australian Agency: 430, Bourke St., Melbourne, where our Books can be bought at London prices.

INDEX—(CONTINUED).

TRADE AND MISCELLANEOUS ADVERTISEMENTS

PAGE

AMBULANCES:—
St. John Ambulance—
Invalid Carriages 94

ANATOMICAL MECHANICIANS:—
Grossmith's Artificial Eyes, Legs, &c. 11

BOTTLE MERCHANTS:—
Isaacs 76

CARRIAGES, MOTORS, &c.:—
Armstrong—
Coachmen's, Grooms' & Chauffeurs' Liveries 94
Kinloch—Motor Car Policy 13
Morgan & Co.—Adler Car 14
Rover Co., Ltd.—Rover 12 H.P. 15
Scout Motor Works—Scout Car 14
Sunbeam Motor Car Co.—
Sunbeam Car 15

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—
Byno Cascara 44
Tuberculins 45
Castor Oil 67
Angier Chemical Co.—
Angier's Emulsion 20
Anglo American Pharmaceutical Co.—
Huxley's Syrup 69
Huxley's Proteid Food 69
Peptenzyme 69
Protonuclein 69
Nephritin 69
Anglo-Continental Chemical Works—
Muirsethin 70
Neroidal Suppositories 70
Battle & Co.—Bromidia 58
Bayer Co., Ltd.—
Guycose 40
Trocose 40
Benger's Food, Ltd.—
Essence of Rennet 24
Pepsine Pills 24
Bishop, Ltd.—Piperazine Citrate 59
Bragg, Ltd.—Charcoal 64
Brlaub Diamalt Co.—Diamalt 56
British Oxygen Co.—
Oxygen 70
British Pharmacal Co.—
Syr Formatis Comp. 72
Comites Ephederin Comp. 12
Bullock & Co.—
Pepsina Porci 70
Acid Glycerine of Pepsine 70
Burroughs Wellcome & Co.—
Vaporole Inhaler 48
Kepler Malt Products 69
Tabloid Products 51
Christy & Co.—
Glyco-Thymoline 28
Pepto-Mangan (Gude) 29
Ergoapiol 18
Heptos 72
Duncan, Flockhart & Co.—
Chloroform, &c. 27
Evans Sons Lescher & Webb—
Thyroglandin 25
Physiological Standardisation of Drugs 25
Alginon 25
Antidiphtheritic Serum 74
Fassett & Johnson—Emol Keleet 57
Fellows—Syrup of Hypophosphites .. 56

PAGE

CHEMISTS—(Continued).
Fletcher, Fletcher & Co.—Vibrona 57
Gale & Co., Ltd.—
Preparations of Comfrey 68
Grillon—Tamar Indien 70
Hewlett & Son—
Hewlett's Specialts 34
Hoffmann-La Roche Chemical Works—
Omnopon 54
Hogg & Son—
Protirin Nerve Food 72
Hugoins—Ozone Paper for Asthma .. 69
Hughes—Kruschen Salts 61
Humphrey, Taylor & Co.—
Juncea 22
Kuhn & Co.—Pepsin-Finkler 60
Kutnow & Co.—Kutnow's Powder 36
Lambert Pharmacal Co.—Listerine .. 26
Macfarlan & Co.—Chloroform, &c..... 67
Maltine Manufacturing Co.—
Maltine with Cod Liver Oil 47
Maltine Compounds 48
Newbery & Sons—
Hudson's Rumanthol Jujubes 66
Parke, Davis & Co.—
Capsolin 35
Peat Products Co.—Sphagnol 69
Pneumosan Chemische Fabrik—
Pneumosan 41
Raimes & Co.—
Slinger's Nutrient Suppositories .. 64
Riedel Co.—
Bornyval 55
Scott & Bowne, Ltd.—Scott's Emulsion 58
S. P. Charges Co.—Sulphaqua 66
Squire & Sons—
Kasena 38
Kasak 38
Sennisse 38
Aromatic Essence of Senna 58
Permanglobin 58
Maltoglobin 58
Tidman's Sea Salt 71
Violet Freres—Byrrh 68
Wador—Scheidling's Gout Pills 72
Wander—Ovaltine 39
Welford & Sons—
Saccharulich 100
Widenmann, Broicher & Co.
Extoral ..... Cover iii
Willows, Francis, Butler & Thompson, Ltd.—
Tablets 100
Wulfing & Co.—Sanatogen 33
Zimmermann, A. & M.—
Schering's Atophan 61
Schering's Hegonon 54
Schering's Hormonal 54
Spermineum 57
Neurofebrin 69

DISINFECTANTS:—
Allen & Hanburys—Medical Izal 42
Condy's Fluid 68
Jeyes' Sanitary Compounds Co.—
Cyllin 19
Pearson's Antiseptic Co.—Hycol 51
Zimmermann & Co.—Lysol 67

ENGRAVERS (NAME PLATES) &c.—
Chamberlain—
Brass Name Plates 64
Cooke & Co.—
Brass Name Plates and Lamp 74
Osborne & Co.—
Brass Door Plates 76

PAGE

FOODS:—
Allen & Hanburys—
Allenburys Diet 45
Aylesbury Dairy Co.—
Humanized Milk ..... Cover ii
Benger's Food, Ltd.—
Pancreatised Lentil Flour 24
Blatchley's Diabetic Preparations 67
Bovinine Co.—Bovinine 19
Cadbury Bros.—Pure Cocoa 61
Callard & Co.—New Diabetic Foods .. 64
Cerebos, Ltd.—Cerebos Salt 52
Fairchild Bros. & Foster—
Taibosa ..... Cover iv
Horlick's Malted Milk Co.—
Malted Milk 71
Manbu Food Co.—
Manbu Diabetic Foods 72
Mellin's Food, Ltd.—Mellin's Food .. 66
Nestle & Anglo-Swiss Condensed Milk Co.—Peter's Milk Chocolate 20
Oxo 60
Plasmon, Ltd.—Plasmon 100
Plasmon Tea Co.—Plasmon Tea 72
St. Ivel, Ltd.—
St. Ivel Lactic Cheese 65
Savory & Moore—
Food for Infants 23
Spring & Co.—
Topmast Sardines 64
Tibbles' Vi-Cocoa, Ltd.—
Vi Cocoa 62
Valentine's Meat Juice Co.—
Meat Juice ..... Cover iii
Van Abbott & Sons—
Foods for Diabetics and Obesity .. 70
Van Houten's Cocoa 53
Watson & Co.—
Skipper Sardines 72
Wulfing & Co.—Albulactin 32

FURNITURE, &c.:—
Carter—
New Rising-Seat Commode 18

HOSPITALS (ISOLATION):—
Boulton & Paul—
Revolving Shelters 12

MED. & SURG. APPLIANCES:—
Bailey & Son—
Trusses 16
Elastic Stockings 12
Davidson & Co.—Davco Orophose .. 76
De Witt Lukens Co.—
Sterile Catgut 73
Dumas Belts Co.—
"Dumas" Adhesive Elastic Bandaging 75
Endolytic Tube Co.—
Endolytic Tubes 73
Ernst—Orthopædic Apparatus..... 12
Galen Manufacturing Co.—
"Durana-White" Plaster 15
Hawksley & Sons—
Dr. Martin's Sphygmomanometer. 75
Haywood, Ltd.—Elastic Stockings 99
Hearson & Co.—
Hearson's Specialities 17
Millikin & Lawley—Osteology, &c. .. 72
Pond—Arch-Support Socks 76
Robinson & Sons—Gamgee Tissue 72
St. Dalmas & Co.—
"Varico" Leg Bandage 17

PAGE

MED. APPLIANCES—(Continued).
Scholl Manufacturing Co.—
Scholl "Foot-Eazer" 76
Timpson & Co.—
Canthos Blister Plaster 70
Walton & Curtis—
Curtis Abdominal Support 18

MINERAL WATERS:—
Apollinaris Co.—Apenta 52
Contrexeville Pavilion..... 62
Davis—Hercules Water 71
Hal Mar—Vittel 71
Evian-Cachat Agency—
Evian-Cachat Water 21
Ingram & Royle—
Glenalbion Mineral Water 65
Royal Pachingen Natural Mineral Water 17

MUSICAL INSTRUMENTS:—
Marshall—Unrivalled Player-Pianos 12

OPTICIANS:—
Baker—Microscopes 12
Zeiss—
Microscopes 11
Electro-Optical Instruments..... 11

SANITARY APPLIANCES, &c.:—
Daisy Vacuum Cleaner Co.—
Daisy Vacuum Cleaner 73
Ozonair—Ozone Apparatus 75

TAILORS, BOOTMAKERS, &c.:—
Dowie & Marshall—
Hygienic Bootmakers 75
Evans & Co.—
Evening Dress Suits, &c..... 75

VACCINE LYMPH:—
Jenner Institute for Calf Lymph..... 76
Renner's Calf Lymph Establishment 74
Robertson & Co.—
Chanmier's Calf Lymph 74

WINES, BEER, SPIRITS, &c.:—
Back & Co.—
"G.B." Diabetic Whisky..... 72
Dunville's Irish Whisky 62
Mackie & Co.—Clear Whisky 71
Wallbread's Extra Stout 65

X-RAY APPARATUS, &c.:—
Ilford, Limited, Ilford—
X-Ray Plates 78
X-Ray Films..... 78
Watson & Sons—
Intensified Induction Coil 16
Dreadnought Mercury Interrupter 16

MISCELLANEOUS:—
County Bacon Factory, Chippenham—
Real Wiltshire Bacon 94
Gray, Paddington-street—Hypnotism. 92
Mab Co.—Mab Razor 99
No. 614, L.O., Strand—
Male Nurse Attendant..... 92
No. 618, L.O., Strand—Housekeeper.. 92
No. 622, L.O., Strand—Nurse 92
No. 624, L.O., Strand—House keeper.. 92
Thomas, Upper Capron-road—
Motor Car for sale..... 94

EVERY FRIDAY. **THE LANCET.** PRICE SIXPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.*		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

* *The same rate applies to Medical Subordinates in India.*

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Five Lines and under £0 4 0
Official and General Announcements	
Trade and Miscellaneous Advertisements and Situations Vacant ...	Every additional Line 0 0 6

Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.
Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.
Special terms for Position Pages.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to insure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith & Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

OFFICES: 423 and 424, STRAND, LONDON, W.C., and 1, 2, and 3, BEDFORD STREET, Adjoining.

Sole Agents for Advertising in Germany, Austria, Hungary, Switzerland, and the French and Italian Riviera—RUDOLF MOSSE, Berlin, S.W., and all Branches.

Agent for the Advertisement Department in France—J. ASTIER, 35, Rue Franklin, Asnieres, Paris.